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Engineering Works in India.

ONE of the features which have most struck the imagination of the English public, and which have, perhaps, increased the disinclination at first naturally existing for the investment of capital in a distant and strange country, is the magnitude of the public works attempted and carried out in India. No doubt, individual works of great magnitude may be cited. The anniout across the Sone is 2¼ miles long in an unbroken line. The two main canals starting from this point are each 150 yards broad, and 10 ft. deep. The bund of the Veranum tank in South Arcot is 12 miles long, and about 20 ft. high. The tank itself is 2¼ miles wide in the widest part, and it will contain about one hundred million cubic yards of water. The highest bund which Sir Arthur Cotton has seen was 54 ft. high, although he believes that there is a tank with a depth of 60 ft. of water.

Noble as these works unquestionably are, it is rather in distribution than in gross magnitude of work that the labours of the engineer in India differ from those of his professional brother in England. We can point to no railway embankment of 12 miles long, but it would be only a very small railway that did not contain 12 miles of embankment distributed in various portions of its course. In the works at the head of river deltas, as in the case of the Cauvery, or in those for collecting water in the hills, as in the instance of the Veranum tank, a vast amount of work, intended to affect many hundred miles of country, is concentrated. The physical nature of the country demands this kind of work. But the details are as simple, and the cost is not much more, than that of the same quantity of work distributed over a larger area of country. Nor can either the cost or the magnitude of these great embankments and dams compare, in a disadvantageous manner, with that of such familiar undertakings as the bridging the Menai Straits, or the tunnelling under the streets of London.

The simplicity with which works of permanent stability have long been constructed in India is a feature of their engineering to which we shall do well to pay attention. Extending over a great range of country, and formed out of every kind of material, the bunds are made without any such contrivance as a "puddle trench," which Sir Arthur Cotton regards as essentially mischievous, tending to lead to cracks in the mass of the bank. The great point is to have the embankments made of homogeneous material, so as to allow them to settle equally. Great watchfulness is also requisite, in the wet season, to prevent any overflow, except through the properly-arranged sluices. The bursts of rain in the Carnatic are tremendous. As much as 5 in. of rainfall in a single night is not unfrequent, and Sir A. Cotton has known as much as 12 in. of rain to fall in that time. The smallest rill that is allowed to trickle over the edge of an earthen bank wears itself a passage, and becomes a destructive torrent with extreme rapidity. On one occasion the water in the Veranum tank is said to have overflowed the whole twelve miles of the bund, and to have breached it in thirteen places. On another occasion the engineer in charge of a bund, finding the water rising with more rapidity than he was able to meet by the supply of earth, made a wall of the bodies of his labourers, causing them to lie down close to one another on the top of the threatened part of the dam, and thus keeping back the 2 in. or 3 in. of water, which, if unchecked, would soon have wrecked the whole bund, and ruined a wide district, until their places could be supplied by baskets full of earth. It was an original expedient, but it saved the district. What the labourers said about it we have not heard.

The districts of India which are naturally fitted for such works are full of noble tanks, of native construction, some of which are of venerable antiquity. Till within the last thirty years very little was done to keep these important works in repair. In 1827 the Veranum tank was in such utter disrepair that the people were almost in a state of rebellion from want of water. A report that the sum of 3,500*l.* ought to be laid out on it was made in that year; but by 1833 no steps had been taken to carry out the order for the work, and the people were in such a state of discontent that it was feared that it would be necessary to send troops into the district. A large number of tanks have now been put in good order by the Government. In Mysore the condition of these works, under the charge of Commissioners who have a considerable degree of power, is said to be excellent. In Madras there is great room for improvement. In Bombay two new and capacious tanks have been formed by shutting up valleys, one by a masonry bund, the other by an embankment of earth. Each will contain about 140 million cubic yards of water when the waste-weir is closed. But as, during the four months of the monsoon, a tank supplies water to the dependent canals at the same time that it is filling, the water which it preserves from being wasted is more than its actual contents when full. The tanks in question may thus convert to useful purpose as much as 200 million cubic yards of water a piece per annum. The loss by evaporation during the year is estimated at 72 in. over the surface of the water area, which will amount, in the cases in question, to about 6 per cent. of the whole supply afforded by the tanks.

The cost of the tank with the masonry bund, which is near Poona, is not at present accessible. The other, which is near Sholapoor, cost 90,000*l.*; of which some 20,000*l.* were spent on the canals for distribution. The capital laid out was thus about 500*l.* per million cubic yards of the contents of the tank, or 370*l.* per million cubic yards of the water actually utilised in a year by its agency.

Near Nagpoor is a site where it would be quite practicable to form a tank that would contain 2,000 millions of cubic yards of water. Such an inland sea would feed the stream of the Godavery for 200 days in the year with an average supply of 400,000 cubic yards of water, which is double the flow to which the river is now reduced in the dry season, thus facilitating the navigation of 500 miles of canal, besides the ultimate application of the water to the irrigation of the crops. The cost of such a work, which Sir A. Cotton estimates at 400,000*l.*, would not amount to more than 800*l.* per mile of navigation, or, at 7 per cent., to about 70*l.* per mile per annum for supply of water to the canals.

The great special works of the annicuts or dams at the head of river deltas, and of the tanks, or mountain reservoirs, for storing the copious rainfall of the highland districts, are, as we have seen, special features of India. In that portion of the system which lies between the tank and the annicut, we have occasion for works of a kind with which English and Dutch engineers have long been familiar; not that the peculiarities of the Indian climate do not impart a special character to Indian canal work. An Englishman would be apt, on looking at the map of India, to conclude that, in order to conduct an enormous amount of inland navigation, it would only be necessary to put boats on the great rivers. Had this been the case, the natives would not have left it to us to show them the way to do so. In point of fact, while greatly respecting the military power of England, they consider us, as engineers, as little better than savages,—anyway, inferior to some of the native rajahs who constructed the great works of past years. Nor can it be denied that in what, after all, is one of the best tests of the skill of the engineer, namely the production of a given effect with the least expenditure of power, and with the simplest machinery, the Indians have many centuries ago arrived at a *ne plus ultra*. Long before the science of the French engineers had arrived at the fact that the mode in which human labour can be most efficiently exerted is by man's raising his own weight, the Indians had watered their rice-fields on that very principle. We have seen, five and twenty years since, in France, elaborate contrivances for raising earth, at which an English navvy would laugh, but by means of which human labour became cheaper than horse labour. An inclined plane was constructed at an angle of between 45° and 60°, and two platforms were connected by wheels, chains, and pulleys, in such a manner that as one ran up the incline the other ran down. On to the platform which happened to be at the bottom the barrow-man wheeled a barrowful of earth, and left it there in the barrow. A couple of labourers quietly made their way up a sort of half-ladder, half-staircase,

laid up the slope, walked on to the upper platform, which descended by their weight, and thus raised the barrow of earth to the upper level. The daily work of a certain number of workmen thus consisted in walking up the slope and riding down it. It was an easy occupation, but the very ease depended on the fact that the muscular energy necessary to raise so many tons of earth so many feet in height was thus most efficiently exerted. A man can work in this way at the best advantage, just as a horse can do five times the amount of haulage at his natural pace of two miles and a half an hour that he can do at the driven pace of ten miles an hour. In England the work would either have been done by relays of barrowmen, each wheeling the barrow for a run, or by the aid of a horse, pulling the barrow, and in some cases the man who guided it, up a steep incline. The French mode,—strange as it looked to a muscular Englishman,—was really the cheapest. It involved, of course, some preliminary outlay in machinery. But the Hindoo lays a long plank, notched, to prevent slipping, over the fork of a post which he drives into the ground near a supply of water. That is all his machine, and very often the post takes root, and grows into a tree that shelters the workman. The water vessel, and the bamboo which attaches it to one end of the plank, the workmen takes home at night, to avoid theft. The day's work then consists in something like the English boy's game of see-saw,—the man walks along the plank backwards and forwards. As he approaches the tree, the water-vessel dips into the water. As he walks to the other end of the plank, the vessel is raised. The Madras engineers have made careful theories of the statistics of the employment of human power. Sir Arthur Cotton says that the cost of water raised by this contrivance, which is called a picottah, is about the same as that raised by bullocks, being about 1*l.* per 3,000 cubic yards. The great points to admire are the extreme simplicity of the machinery and the exertion of the minimum labour on the part of the workman.

It is thus tolerably clear that any one who approaches the question of Indian irrigation and water-carriage with the lofty idea that we have but to carry the science of our own highly-civilised country to the aid of a barbarous people, and that wealth and ease will follow our footsteps, totally misconceives the nature of the problem to be solved. In very much, of course, the progress of manufacturing industry made by us within the present century gives us a great advantage over the Oriental who has never seen a steam-engine. But the rapidity with which the Hindoo, still more the Chinese or the Japanese, will rise, by his great imitative powers, to the level of the European workman, is one of those facts which it would be well for this country if the English workman fully realised. In the Mint works of Madras and Calcutta, Col. Smith trained native workmen so closely to emulate his English workmen, that he obtained from the former, at the price of an anna, that for which he had to pay the latter a rupee. This is an extreme case, and the craft of the moneyer is one in which the Hindoo might, perhaps, have been expected naturally to excel. But, as a general rule, what India demands at our hands, is rather Governmental facilitation of remunerative works than anything else. Even capital, our great reliance, is not so much the need of India as confidence. There is abundance of native capital that would be forthcoming for works such as those which India requires, if only the wealthy natives were convinced of the hearty good wishes and sanction of the Government. To those of our readers who have never been out of England this assertion may seem incredible; but those who know the East, or even who know many parts of the South of Europe, are well aware of the slavish terror with which the mass of the people regard even the smallest official. Experience is ample and conclusive to the effect that the natives will hang back from supporting an object which they sincerely desire, if any jealousy or stupidity in the great hierarchy of officials gives them the suspicion that the Government does not really wish that object to be carried out. Convince them of that, and do so by giving that information and that administrative aid of which the Government has the means of disposing, and the degree of local support that will be forthcoming for well-considered schemes will be quite enough to satisfy the friends of India.

In the case of river navigation, the impulse of the central power is required, from the fact that widely-distant districts of country have a real solidarity of interest which only the central power can comprehend. Thus in the case of the proposed storing of the water of the Godavery this very cause of dispute has arisen. The new tank would be in one district; the main utility of its contents would be in another. But the former district intimates that it would consider the water stored in its valleys as its own, and would consult its own interests in its distribution, heedless of those of the lower river basin. Meantime the Cauvery is comparatively useless as a highway during the very season in which the carrying trade is naturally most active. A wise and comprehensive policy, collecting all the facts of the case, and facilitating administrative action that should most tend to the common good, is thus the prime need of India as regards public works.

The importance of canal development in India is one that cannot be measured in money. It is, indeed, possible to estimate the loss to the State, in mere annual revenue, that is caused by a great famine. But such a calculation, to say nothing of its quiet cynicism, is very far from representing the actual loss incurred by the decimation of a great province. In 1874, in consequence of a famine due to the want of water, about 4,000,000 people were fed by the Government in Bengal for some four months. They must, in that time, have consumed 350,000 tons of grain. This, not at the famine, but at the ordinary price of rice, must have cost 2,100,000*l.* The grain required might have been produced on 700,000 acres of land, by the application of 6,000 cubic yards of water per acre, or 4,200 million cubic yards. The value of this water would thus have been 1*l.* for 650 cubic yards, or more than a hundred-fold the cost of its storing and distribution. In Orissa, in 1866, there was a famine. The idea that it was within the power and the duty of Government to save the lives of the people had not taken root. The official papers state that a million and a half died. The loss of revenue to the Government, at 2½ rupees per head per annum, was 375,000*l.* for the year. At twenty-five years' purchase, this gives a national loss to the revenue of 9,377,000*l.* To save these lives would have required 150,000 tons of grain, costing 900,000*l.*, which it would thus have secured a tenfold profit to the Government to provide. But to have raised that quantity of rice would only have required the distribution of 1,800 million cubic yards of water. The value of this water, that is to say, its productive value, would thus have been 260 yards for a pound. Its cost, which by the *picottah* we have seen to be 3,000 cubic yards for the 1*l.*, we have found on the great irrigation works to be reduced to 70,000 cubic yards for 1*l.* These are incredible margins between the cost of neglect and the cost of forethought; to say nothing of the vast amount of human misery entailed by what has been shown to be a preventible evil,—local famine.

Not only in the production, but in the distribution of food, canals already play no small part in the production of the wealth of India. How very little now needs to be done in order to complete the service of some of the most important districts it is satisfactory to know. At the same time it is all the more urgent that the works in question should be pressed, with the least possible delay. Thus, if the 7,000 miles of canal which have been designed as easily to be constructed in connexion with river navigation in India were made (being less than twice the mileage of the canals of the United Kingdom), and if they conveyed an average traffic of two millions of tons over the entire system (which is the actual traffic of the Aire and Calder), the cost, at one-tenth of a penny per ton mile (which is double that which Sir Arthur Cotton estimates), would be 6,000,000*l.* The same amount of transport by road, at 3d. per mile, would cost 180,000,000*l.* By railway, at the existing rate of charges, it would be 90,000,000*l.* It is thus clear that the absence of water communication forms the bar to an immense internal traffic, which would not only augment the wealth of India, but would have a direct effect on the English market. Thus it has been calculated that the wheat which is at this moment selling on the Upper Mahanady at 9d. a bushel may, on the completion of the designed lines of inland navigation, be landed in England at 2s. 6d. per bushel cost price. The effect of this, or of anything approaching to this, immense revolution in the corn trade would be prodigious. From twenty to thirty millions a year would be paid to our own subjects in India, instead of to the United States. A corresponding outlet would be afforded to the goods of Manchester and our great manufacturing centres. Where merchants are now anxious to obtain a reduction of 2s. or 3s. per ton in freight by sea to Calcutta, they overlook the fact that is within the power of the engineer to reduce the rate of transport for 1,000 or 1,500 miles in India itself from 1½d. to one-tenth of a penny for ten miles, or by 150-fold.

The total expenditure upon the irrigation works of the North Western provinces of India up to the end of 1874–5 has been 4,565,578*l.* sterling (at the valuation of 10 rupees to the pound). Out of this sum 22,197*l.* were laid out on works that have been abandoned, and 675,175*l.* on works under construction, from which no revenue has yet been derived. The balance of 3,836,517*l.* represents works in partial operation, although yet incomplete. These are chiefly from,—viz., the Ganges, Eastern Jumna, and Agra Canals, the Dun, Rohilcund, and Bijnour water-courses, and the Bundelkhund Lakes. Of these the canals alone have cost 3,632,051*l.* In the second series the principal work is the Lower Ganges Canal, now in the third year of its progress, on which 622,502*l.* have been laid out. The income assessed for the first year in water rates and miscellaneous income on the partially opened canals was 295,560*l.*, to which has to be added a figure of 85,887*l.* credited in the civil accounts as increased land revenue due to the operations of the canals. On the total revenue of 381,447*l.* the working expenses have been 132,493*l.*, or 34·6 per cent., a ratio that no doubt will be considerably reduced by the completion of the works. As it is, however, the net revenue is enough to pay a dividend of 6·49 per cent. on the capital expended. These figures include the first year's operation of the Agra Canal, on which the expenditure has exceeded the income. Setting this aside, as a temporary feature, the profit on the works in full operation has been 7·48 per cent. on the capital expended to the close of the year. On the Eastern Jumna Canal alone, the profit on the outlay has amounted to the high ratio of 29·17 per cent. It will therefore be seen that the latest statistics furnished by the Indian Government are such as fully to bear out the statements of the advocates of irrigation canals.

It will be a thousand pities if facts like these are shrouded with any discredit by the personal views—not to say whims—of any of those persons to whom we have to look for information as to India. Especially we regret the attacks made on the Indian Government, and on the Indian railways. As to the latter, the wine is drawn, and we have to drink it. More than that, the majority of persons in this country will think that it has been well drawn. To construct 6,000 miles of great strategic lines at one-third the cost per mile of the English railways, and so to work them as to earn a *bonâ fide* 3½ per cent. on the capital, is not, in our view of the case, bad work. The fact that canals can be constructed at 1,000*l.* or 2,000*l.* per mile does not invalidate the position of the railways. But it does give promise of abundant increase of the wealth of India, and that increase will affect the railways advantageously,—whatever be the bulk of goods and number of passengers borne by water. Far more than was the case in England forty years ago has the internal traffic of India to be created. That it will spring up with immense rapidity we do not doubt. Nor do we hesitate to repeat that the main charm by which the face of India will be furrowed by canals, roads, and irrigation works will be found to be in producing the local conviction that the Imperial Government has that development of the communications and resources of India deeply and truly at heart.

Bristol and Gloucester Archæological Society.—A general meeting of the members of this Society was held at Bristol on the 13th inst., Sir William Guise in the chair, when a long discussion took place on St. Werburgh's Church, and ultimately the following resolution was adopted:—"That a committee of this Society be formed to communicate with the churchwardens of St. Werburgh's with respect to preventing the demolition of the tower, and to take some means of raising public subscriptions to restore it, with a view to its maintenance by the Corporation as a public monument." Bishop Clifford read an interesting paper on the origin of Bristol, and Mr. Clark gave an instructive address on Berkeley Castle.

FROM A DUCAL KITCHEN.

SOME valuable instruction having been given from a ducal kitchen to wives of the working classes, in the form of a lecture on cookery adapted to their means, and illustrated by several dishes made in the course of it, we have much pleasure in extending its usefulness by detailing the particulars to a wider sphere.

We must premise that the lecturer was the *chef-de-cuisine* of the Duke of Northumberland; that the lecture was given in the schoolroom of the National Schools, Alnwick; and that it was presided over by the vicar of the parish. The parents of the scholars were invited to be present gratuitously, and other members of the working-classes were admitted upon purchase of tickets, priced 3d. each.

The National Schools at Alnwick stand just outside the old boundary-wall of the town, and their chief approach lies through one of the old gateways. On Thursday evening, the 14th inst., at seven o'clock, little groups of women, in twos and threes, passed through the dark gateway, and made for the entrance of the girls' schoolroom. At the end of this long well-lighted room, they found a platform raised upon some of the school forms, with a small gas cooking-stove and two tables upon it. Upon the stove were two pans with soup, or stew, in them, gently simmering; and upon the tables were basins, bottles, jars, paper parcels, knives and spoons. Behind the tables stood a pleasant, sedate, young woman, who from time to time lifted the lids of the pans to inspect the progress of the contents, and opened the door of an oven below them to observe the condition of various dishes baking in it. Meanwhile, the schoolroom benches gradually filled with orderly matrons and maidens.

At the appointed time two gentlemen stepped upon the little platform. One was the vicar, the Rev. E. Trotter, who introduced the other as Mr. Thorpe, whom he had asked to give the audience the lecture they were about to hear, he said, in the hope that his instruction in the methods of producing variety and savouriness in their food, without increasing its cost, would be of service to them and their families.

Mr. Thorpe commenced his well-planned instructions by remarking that it is generally agreed that the money spent upon food by the working-classes does not yield them the same advantages as proportionate sums expended by the middle classes; and it is as generally agreed that the reason of this shortcoming is because the mode of cooking the food is not so satisfactory. And it seems to be as generally agreed, further, that the French working-classes are much better off in this particular than our own, because their mode of cooking is so much more painstaking and economical. Good cooking means economy as surely as bad cooking means waste. Things that with us are almost despised, he went on to say, with a mellow smoothness, such as herbs and many vegetables, form the principal ingredients of French soups, and good soups form a leading feature in French dinners. To illustrate the different way in which two people may set about the same object, both having the same intention in view, but the one having a happy knack, and the other an unfortunate way, Mr. Thorpe told the good old story containing the recipe to make stone soup. In the two soldiers, one of whom went without broth, whilst the other made some of excellent quality from a stone, we may see the unhandy cook, English or otherwise, who has no resources without finding everything ready to hand, and the clever provider, French or otherwise, who out of unconsidered trifles can produce a savoury and wholesome repast. "Could any one give me a little salt?" asked the old soldier, when his stone was quietly boiling in a borrowed pan. "How much nicer this stone soup would be with a few herbs in it," he remarked again when a bystander had given him a pinch of salt. And then, "what a much better flavour a scrap of bacon or beef would give this flint," he urged to another admiring spectator when some one had gathered him a few herbs. It was just this gathering together of small uncostly articles, taking pains, and using them with judgment, that constituted the gift of economical management. So much of our health, and consequently happiness, depends upon the quantity and quality of the food we eat, Mr. Thorpe continued suavely, that it is not too much to say that the downfall of many an unfortunate man may be traced to the want of decent meals at home. Everything that is worth doing at all is worth doing well, in cookery as in other matters, whether it is the production of a dish of porridge, or one compounded of the most expensive materials that can be bought.

The lecturer then proceeded to relate, clearly and briefly, how he had purchased two ox-cheeks for 4s.; four ox-feet for 2s.; two sheeps' heads for 1s. 8d.; and a pint of barley and half-pint of peas for 4d. more; amounting altogether to an expenditure of 8s. And then to show how, by judiciously using these articles, with the addition of various vegetables, which he presumed the audience grew in their respective gardens and allotments, he could produce the following dishes:—Six quarts of ox-cheek and barley soup; four quarts of harricot-bean soup; four quarts of cabbage soup; four quarts of dried pea soup; four quarts of potato soup; four quarts of artichoke soup; a cottage pie; a toad-in-the-hole; a sheep's head smothered in parsley sauce; a sheep's head baked with bread-crumbs, and served with liver sauce; and some collared beef.

At this stage of the lecture, plates and spoons were distributed to the audience, and the vicar, assisted by Mr. Thompson, the schoolmaster, passed round tureens of the different soups thus made from the same stock, but entirely varied in flavour and appearance by the addition of other items. The ox-cheek soup, for instance, was thin and clear, with a little barley in it; the haricot-bean soup was thick and glutinous, and what may be termed "filling"; the pea soup was a little less so, but piquantly flavoured with a sprinkling of dried mint; the cabbage soup thin, again, and meagre, though not *maigre*, or without meat, because, as mentioned, it was made of the same stock as the rest. Now there was a clatter of spoons and saucers which told of the hearty, though mute, appreciation of the audience, as they tasted the contents of the different tureens. After these soups were disposed of, Mr. Thorpe produced one of the sheep's heads, which was to furnish the next dish out of his investment. This, he proposed, should be served with parsley sauce, and in a few minutes' time the somewhat unsightly object lay in a little pool of green sauce, and presented a much more pleasing aspect. The other head was then treated in a different manner. Some parsley was fried in a little dripping, to give it a flavour not otherwise attainable, and poured upon it, and then some bread-crumbs were sprinkled over the parsley, and the brains placed at the four corners, and the dish placed in the oven, whilst a sauce of chopped liver was made to serve with it. Some of the cold ox-cheek was next operated upon. It lay upon one of the tables a small solid block of meat. The assisting maid cut off a few thin slices from it, and placed them in a pie-dish, and then handed Mr. Thorpe a basin of mashed potatoes, with which he filled up the dish. "If you have nothing else to do," he told the audience, "you can show your taste by decorating the flat surface of these potatoes, for any ornament you choose to put upon it will show up well when it is baked; but, as we cannot wait while this is baking, I have brought another dish, prepared exactly as you have seen this one prepared, already baked"; and here he passed down a good-looking pie, with a rich orange-coloured crust, gently curved, made of potatoes, as indicated. "For another change I will show you how to cook a few more slices of the same cold ox-cheek in batter, which process is equally applicable to any other fragments of cold meat." Here the assisting maid was ready with neat help again, broke eggs, beat them, added flour and milk,—showed the process, in fine; and then Mr. Thorpe drew another pie, prepared in the same way, from his oven, ready for eating, of a deep rich brown colour, also very agreeable to the eye. "But I have not yet used up all the materials. After making these six different sorts of soups, and serving up the two sheeps' heads in different ways, and using some of the ox-cheek in a cottage pie, and more in the toad-in-the-hole, or batter, I have still enough left for this," and he held up to view a dish of collared head, about as high and round as a Stilton cheese; "and I cannot say that this is yet all, for here is a glass jar of the soup that has become quite cold, and is, as you see, in a firm, clear jelly. This shows you the nourishing qualities in the ox feet. And even still I have some more of the soup at home, for there was no occasion to bring it all here. Besides the eight shillings I have accounted for, I have bought some tripe, a rabbit, some fish, and a few trifles for six more shillings, making in all an expenditure of fourteen shillings, which, you will see before we finish, will furnish sufficient food for a meal for 100 persons, or, in other words, for 100 dinners at 1½d. each.

Now the bright copper stew-pans were changed, and one was put upon the stove full of melted dripping. "We use more fat in frying than, I expect, you are accustomed to do," Mr. Thorpe began again; "but the extra quantity cooks the articles put into it so very much better, without making them so greasy, and as it can be used over and over again, I do not think it a much more expensive way of going to work. Fish can be got very cheap here, so I am going to show you the best way to cook it. You take all the meat off the fish, first on one side and then on the other, and cut it into slices; then you take these slices, and dip them into an egg, which you have previously beaten up on a plate, and then you stew them with bread-crumbs, or, if you have no bread-crumbs, with a little oatmeal. When thus prepared, you place them in the boiling fat, and leave them in it till they become of a light brown colour." As the lecturer gave these directions he suited every word with a corresponding action, and having deposited some slices in the bright little stewpan on the stove, he sent round a sample dish, prepared in the same manner, only already perfected, so as not to lose time. The application of forks to the plates on which it was dispensed made another clatter of appreciative applause more unmistakeable than words. "And if you have any cold fish left, you can break it up, and mix it with some rice and chopped egg, into a dish like this," he continued, as he handed down this fresh combination, called cadgerie, and there was a renewed, though always subdued, clatter of the forks on the plates of those tasting it. "Now, I know tripe is an article you often purchase, and I will tell you how to make the most of it. When it is thoroughly washed and perfectly clean, put a small piece of butter into a stew-pan, and shred an onion. Put that in too. Then add a spoonful of curry. Put in your tripe, with some milk and water, and let it stew; but, as we cannot wait to see the result, I have brought a curried rabbit with me, in this Norwegian stove, already cooked by the same method. Every one who likes peppers and hot things will like curry, and it is to be bought in bottles for a shilling, which bottleful will last you for a very long time, and make you many a pleasant change. Boiled rice should be served with curry, because it is good with it, and it also serves the purposes of making it go farther. I have also here," he continued, stooping down to the Norwegian stove he had opened to take out the curry, "I have also here a dish of haricot beans. They are very little used in this country, though they are very cheap, being only 3d. the quart, and very nourishing, and very nice. You ought to put a small piece of butter in your stew-pan and shred an onion into it, and then put the beans in with any gravy or stock you may happen to have, and let them stew till they are like this," and a most savoury-smelling and substantial-looking dish was passed round for inspection and tasting, in quick succession to the curry. A French cook, and any good cook, is never without stock. The French generally keep a stock-pot always at the side of the fire, and put every scrap and bone into it. They waste nothing: not even their snails. I once bought one of their snails in France, but I could not eat it, so I lost my money and my snail; but in most instances their dishes are very much to be commended. There is one more cheap article of food that has not yet come into the general use it well deserves, I mean macaroni. This can be bought, now, for, I believe, 4d. a pound. You take a piece of butter and put it into a stew-pan, add a little flour, and you take some grated cheese, or bits of cheese chopped up, and put them in, too, and gently stir them round," and here the lecturer took the wooden spoon from his careful and attentive assistant, who had been following out his directions, as in the other instances, and began to stir the contents of the stewpan himself, "and then you take some macaroni previously boiled in water till it is tender and put that in too, and you will have a cheap and satisfying dish like this," and the lecturer ladled the thick rich mixture on to a dish and sent it down to the audience likewise. "I do not have to study expense in my own experience," the lecturer remarked in the course of the evening, "but I can feel for those who must do so, and I have selected such articles to cook as I know are used by the working-classes, so that the little

improvements I may be able to suggest may make them more enjoyable. And I also take this opportunity to introduce you to a 1d. cookery-book, which I consider quite a marvel in its way."

At the conclusion of the lecture, the vicar moved a vote of thanks to Mr. Thorpe for his kindly instruction, and announced it was part of a scheme of the management of the school to establish a cooking class for the older girls. After a few more good words and good wishes the proceedings closed, and the matrons and maidens all filtered out of the bright school-room into the dark night, and went their several ways.

GREEK BUILDING RECORDS.

An exceedingly interesting and valuable article on "Greek Inscriptions" has been contributed to the current number of the *Contemporary Review*, by Mr. C. T. Newton, who, we need hardly observe, brings to the treatment of the subject the experience and knowledge acquired during many years of close attention to the elucidation of records of this class. The interest of the article, in addition to its utility as a kind of *catalogue raisonnée* of the various classes of existing inscriptions and their localities, centres a great deal in the relation of the subject to the general social and political history of Greece; but there is also reference to some inscriptions which have a very direct bearing upon the details of architectural practice among the Greeks. These are part of what Mr. Newton characterises as the records of the Athenian "Board of Works." Three such records are extant. Of one of these, the contract for repairing and strengthening the long walls connecting the Piræus with Athens, the writer merely observes that "the precision and minuteness of its specifications make this document a model for all future Boards of Works to study," a hint which will, no doubt, be taken in the proper quarter. This inscription is at Athens, and is published in Rangabé's "Antiquités Helléniques." The other two are connected with the Erechtheum. The first, which is in the British Museum, is a survey of the building made, while it was in progress, by a special commission appointed by a decree of the people, B.C. 409. In this report, we are told, "the exact state in which the building is found by the surveyors is noted with a minuteness which could have left no room for future subterfuge or procrastination; for every block of marble which carries any ornament is specified as either finished and in position, or as partially finished and not yet in its place in the building." The conclusion which the existence of such a document at once suggests, apart from its historical interest, is that a building which could be thus minutely reported upon must have been carried out with a detailed care, precision, and provision in regard to every part, as contrary as possible to any theory of the spontaneous development of architecture such as has been put forward sometimes as the true basis for a genuine architecture. Subordination of every portion under a directing head, and according to a carefully-prepared design, would be a necessary condition for rendering such a survey possible. The third document referred to by Mr. Newton (the original of which is at Athens, and is also to be found in Rangabé's publication) contains a statement of the sums paid for the sculptural decorations of the Erechtheum, with the names of the artists by whom they were executed. "These sculptors, none of whose names are otherwise known to us, were evidently employed under the direction of the architect to execute certain figures and groups in a continuous composition, designed by some master-hand." This work Mr. Newton believes to have been the frieze mentioned in the survey as having a background of dark Eleusinian marble. The prices are anything but high; ranging from 120 drachmæ (about 5*l.*) down to 60 drachmæ, for figures in basrelief about 2 ft. in height. "It would be interesting," says Mr. Newton, "to compare the prices paid for sculpture in this account with the prices paid by Messrs. Armistead and Philip to the skilful hands who carved the frieze round the Albert Memorial." But there seems to us to be a more interesting question still suggested by this list of payments: what was the artistic position, in regard to the work, of these sculptors whose names are thus rescued from entire oblivion by the price-list of their labours? Were they in the same position in reference to the real designer as the skilled carver, who "points" the model into marble for the modern sculptor, who simply transfers the thought of the designer, with rigorous accuracy, from the clay to the marble? Or were they in the position which there seems no doubt was occupied by the Mediæval sculptors and carvers (and in modern days by the "art-workman"), who carried out their own original ideas in the detail of the carving, subject to the general architectural scheme of the building? Mr. Newton appears to take the former view; but it is worth recalling that Mr. Leighton, in the course of some very interesting remarks made in connexion with this very same building (at the Institute meeting when Mr. Fergusson's paper on the "Erechtheum" was read), drew from the well-known caryatide statues a contrary conclusion. He had examined these carefully, and was struck with the fact that while they were so similar in general design as to preclude the idea of a separate model or design having been made for each, they nevertheless showed decisive and interesting variations in detail, which argued that those who executed them exercised their own freedom of taste and judgment in regard to the execution of the design. His inference was that, as it was not likely such heavy work would all be executed by the original designer *manu propriâ*, the subordinate art-workmen possessed a degree of original genius, or taste, which left it possible for each of them to put his own stamp on the character of his own work, and that (necessarily) with the concurrence and approbation of the master-mind. This gives quite a different idea of the office and culture of the executing artist from that of the mere "pointer"; and (as Mr. Leighton on the occasion alluded to seemed to infer) might give us some new light or suggestion as to the extension of art-culture among the Greeks, and some fuller explanation of the conditions of the great superiority of their sculpture work. The prices mentioned for the frieze figures certainly seem rather to suggest the idea of merely subordinate and semi-mechanical work;* but we should be still more indebted to an exponent who, like Mr. Newton, combines linguistic with architectural knowledge, if he could show whether the inscription he refers to gives any really definite information or suggestion as to the artistic position of the sculptors, and whether they were really artists in the true sense, or only carvers reproducing, from a model, what was set before them.

Apart from this particular question, the article is worth the attention of all who have a general interest in Greek archæology; and the author promises a future memoir on inscriptions relating to Greek religious worship.

* The cost of fluting one of the columns has been estimated from these documents as amounting to 400 drachmæ. That of the figures seems small in proportion to the higher character and difficulty of the work. "This work of fluting was executed by small gangs of workmen not exceeding seven in number, and hence may have been piece-work."

THE BYRON MEMORIAL COMPETITION.

The circular inviting sculptors to join in the second competition has been issued, fixing the 1st of June of next year as the latest day for receiving models. The conditions are nearly the same as those of the previous circular, and where they differ it is not altogether for the better. The names of three sculptors, Messrs. Calder Marshall, Woolner, and Durham, are given as the professional advisers of the committee, to which names no one can make any objection. The suggestion that the competitors might themselves appoint three professional referees (not competitors) to co-operate with those appointed by the committee, is withdrawn; perhaps it could hardly have worked very well. We regret to see that there is no option given as to material, bronze alone being accepted for the statue; we should have liked competitors to have had the choice of marble or bronze. But the clause as to scale is most unfortunate. The former circular provided that the models should be on a scale of 2 ft. to the figure, which was overlooked or evaded in many cases; and we pointed out at the time the confusion of scale which resulted, and the consequently increased difficulty of making a fair comparison. But instead of insisting more stringently upon this, the committee have waived it altogether, and merely stipulate that the scale should be "not less than 2 ft. for the figure"; so there is nothing to prevent any competitor from sending a life-size or colossal figure if he pleases, and thereby securing a factitious advantage over those who cannot well afford to do the same; and the result will be confusion worse confounded. We do urgently recommend that the committee would add a "rider" to their circular fixing rigorously the scale of the figure, and excluding models which do not conform to it; otherwise a fair comparison is next to impossible.

ENGINEERING MATTERS.

CIVIL AND MECHANICAL ENGINEERS' SOCIETY.

The opening meeting of this Society for Session 1876–77 was held on the 14th inst., in the rooms of the Iron and Steel Institute, 7, Westminster-chambers, when the President (Mr. R. M. Bancroft, C.E., of the Great Northern Railway) delivered his inaugural address, from which we cull a few interesting items:—

Tram-cars and Omnibuses.—The weights of cars of course vary according to their loads and the gradients of the roads upon which they are used. In Leeds some one-horse cars to carry eighteen passengers weigh 34 cwt. when empty; and cars to carry twenty passengers weigh,—empty, 47 cwt.; fully loaded, 4 tons. The weight of a London Street Tramway Company's car intended to carry thirty-six passengers is (when empty) from 2 to 2¼ tons at the outside; and its cost is 200*l.* The duration of these cars is estimated at from twelve to fourteen years. The North Metropolitan Company's tram-cars, to carry forty-six passengers (twenty-two in and twenty-four outside) weigh about 2 tons 5 cwt. empty and over 5 tons 7 cwt. when fully loaded; it costs 220*l.* The life of a tram-car varies so much with the quality of materials and workmanship, its size, shape, mileage run, and whether it has roof seats or not, that it is rather difficult to give an average period of duration. Cars which have been in use by the North Metropolitan Company for nearly *seven years* are still in very good condition, while others used for a less time are worn out. This company finds that an American firm supplies the most durable, and therefore the most economical, cars, which are estimated to last fourteen years. The rapid growth of this particular branch of industry is remarkable; and foreign manufacturers find it to their interest to have agents established in our midst. I hope English makers will look to this, and not be *beaten* on their own ground.

The weight of an average London omnibus is above 24 cwt. empty, and upwards of 3 tons with a full load of passengers. Its cost is 140*l.*, and its life (if it is as well built as those the London General Omnibus Company make at their own works) will be from ten to twelve years; but if badly built, it will only last seven or eight years.

The cost of London tram-car and omnibus horses is from 39*l.* 10*s.* to 43*l.* each. The age at which horses are considered capable for this kind of traffic is rising five years, and with proper care and dieting (say 30 lb. of food, and running fifteen miles a day all the year round), they will be good for their work in London or in our large provincial towns for an average period of five years, although on a level tramway, and with no Sunday work, they may last for twelve years.

Anything that engineers can do to reduce this wear and tear of horseflesh and rolling stock to a minimum should be done. While so many schemes are now being tried to introduce other motive power than that of horses for street traffic, it would appear that until very lately the idea has not been entertained of storing up the power used in breaking and stopping the cars so as to utilise it for starting and propelling. This is now being tried by Mr. A. Squire, with some prospects of success. He purposes applying it to both omnibuses and tram-cars, and it is surprising to think that such a simple contrivance has not been used before. It consists merely of an ordinary pair of laminated springs, such as is used in every light carriage, being straightened out by means of a chain winding round a clutch-box on the axle, thus breaking the wheels, and thrown out of gear when the driver wishes to start the car thereby assisting to propel it, saving much strain upon the horses,—a subject well worth the support of the Society for the Prevention of Cruelty to Animals. Steam will, no doubt, in a great measure supersede horse-power for this work at some future time. Among those who are seeking to solve the problem is Mr. Perrett, a member of the Civil and Mechanical Engineers' Society.

Compressed Steel.—Speaking at the Iron and Steel Institute on the application of hydraulic power in forging, Sir Joseph Whitworth stated that his firm had recently completed two twin screw shafts for the *Inflexible*, 283 ft. in length, 17 in. in diameter, and cast with a 9-in. hole through them. These shafts were made of compressed steel, and weighed 63 tons, instead of 97 tons if made of iron,—a reduction permitted by the great strength of the compressed steel. He further stated that on applying the hydraulic pressure, a column of metal is reduced 1-8th in less than five minutes,—a remarkable indication of the effect of pressure in expelling air-cells. The strength of the shaft was 40 tons to the square inch, and its ductility or power of extension was 30 per cent. of its length. By using compressed steel, the driving-round of 34 tons was saved during the whole life of the engines.

Paper Railway Wheels.—So-called paper-wheels for railway carriages have been tried for a considerable time in America. One of the first made was exhibited at the Philadelphia Exhibition, after running over 300,000 miles under a Pullman car, without requiring the tyre to be turned. These wheels have steel tyres, made with an inside flange and cast-iron boss. On each side of the boss and tyre wrought-iron or steel plates, $\frac{3}{16}$ in. thick, are bolted, and the space between the plates is filled with compressed paper. This paper is made of straw boards, $\frac{1}{4}$ in. thick, pasted together with paste made of rye flour. These are subjected to a pressure of about 400 tons for about five hours, and are then dried with heated air. These sections are then pasted together in the same way, so as to get the requisite thickness,—about 3½ in.,—and they are again pressed and dried. They thus form a disc, which is turned off, and the tyre forced on with a pressure of about 200 tons. The plates are then bolted to the inside and outside of the wheel with ⅝-in. bolts.

Sanitation.—After all that has been said and done in draining and supplying water to towns, there yet remains much for the sanitary engineer to do in overcoming the prejudices of many who think he is attacking their interests in proposing any alterations or improvements likely to lead to the public good, simply because such works entail a first outlay upon their property, but which, if carried out, eventually become advantageous to all. When we consider the lamentable ignorance that exists upon these simple yet important matters, the only wonder is that the death-rate of our large cities is not greater. Very lately I visited a town on the East Coast, which, during the holiday season, is thronged with thousands of visitors who resort thither for the benefit of their health. In this place I found a case where the inmates of one dwelling had no other water-supply than a pump in their yard in close proximity to the privy. The medical inspector of the district certified that the water was grossly polluted, and a source of much danger to the public health, and the owner was compelled to lay on other water for the use of the tenants; but the medical officer assured me that, bad as this case was, there were several others in the same neighbourhood he had reported on where blood-poisoning by polluted well-water might be expected.

Railway Station Roofs.—The description of roof erected over the Midland St. Pancras Station in the Euston-road appears to have found much favour with railway engineers, for Messrs. Handyside, of Derby, are now constructing and fixing four station roofs of a similar outline. Mr. Ewing Matheson, who is publishing a work for the new year, has kindly favoured me with some information in advance, to enable me to place before this Society—

	Length. Ft. in.			Span. Ft. in.			Weight of Iron. Tons.
St. Pancras roof (given for comparison)	690	0	...	240	0	...	1,800
Joint Station Mid., G.N., and M., S., & L., Manchester	550	0	...	210	0	...	2,400
St. Enoch-sq., Glasgow	518	3	...	198	0	...	1,460
Middlesbro', N. E. Ry. Co., in two spans, one	309	0	...	74	0	...	402
The other	180	0	...	42	2		
Cape Town, South Africa	256	9	...	77	0	...	200

As some anxiety is naturally caused as to the duration of constructions in iron roofs, I may state that a large-span roof has lately been erected over the St. Pancras Goods Station which years ago covered a station in Liverpool; it was afterwards pulled down, stowed away for several years, and is now doing duty a second time.

ARCHITECTURAL SOCIETIES.

Worcestershire.—The annual meeting of the Worcestershire Diocesan Architectural and Archæological Society was held at Worcester on the 13th inst. Mr. Hooper, the secretary, read the report, which congratulated the members on the resuscitation of the Society from a state of almost total extinction, and also spoke cheerfully of its renewed prosperity. The greater part of the report, however, was devoted to brief descriptive notices of numerous church erections and restorations which had taken place in the diocese during the past two or three years.

Northampton and Oakham.—The annual meeting of the Architectural Society of the Archdeaconries of Northampton and Oakham was held on the 11th inst. at Northampton. The thirty-first annual report (read by the honorary secretary, the Rev. N. F. Lightfoot) stated that notwithstanding the loss the Society has incurred by the death or removal of many of its valuable members, its numbers are still in excess of those printed in the previous report (1873), and the financial position is flourishing. For the last few years there has been an excess of income beyond expenditure. Without some special object in view, it seems undesirable for societies such as this to accumulate capital, but several matters had from time to time occupied the attention of the committee, which it would require more than the ordinary income of the Society to carry out, such, for instance, as the printing in a larger size than that of the associated volume, an illustrated account of ancient buildings about to be destroyed—an object in which the committee had in vain sought the co-operation of some other kindred societies, or a more accurate record of the several works of restoration which have been or are being carried out within the area of the Society's work—a subject to which the attention of the members was called last year by Mr. Carpenter,—or, again, what would be a still more expensive undertaking, the possible continuation of the work, one volume of which was so ably brought out many years ago, "The Churches of Northamptonshire." The committee would require the sanction of a general meeting of the members, however, to any scheme which might be devised for the employment of its accumulated funds. The report next gave interesting details of the summer excursion in July last, when, at the invitation of the Architectural Society of St. Alban's, the Leicestershire Society met the Northamptonshire Society at that interesting city. The report (which concluded with a detailed account of the "home-work" of the Society) having been adopted, Sir Henry Dryden gave an account of a visit to the churches of Wisby, Gotland; and Mr. R. E. Carpenter read an elaborate paper on Brigstock Church.

Oxford.—The Members of the Oxford Architectural and Historical Society recently visited the church of St. Mary Magdalen, where they were received by the vicar, the Rev. H. A. Harvey, who pointed out the nature of the improvements and alterations which had been effected in the restoration of the church. The party then proceeded to Trinity College, and were received by the president in the hall. After referring briefly to the history of the foundation of Durham College, he gave a fuller account of the foundation of Trinity College, in 1554, by Sir Thos. Pope, who purchased the old buildings for that purpose. By the aid of Loggan's View, he showed what were the old parts remaining, and what had been rebuilt, and how the buildings had been extended by Dr. Bathurst between 1667 and 1682. Mr. Jas. Parker added a few observations upon the foundation of Durham College, and its relationship to the Priory of Durham. The president then conducted the party to the chapel, and pointed out the chief features, such as the handsome carving by Gibbons, the painted ceiling by Berchet, and the new memorial window to Isaac Williams. A new organ-loft has been recently erected, from a design by Mr. Bruton. The party were then conducted to the library, which is part of the old work, having probably been erected by Bishop Heatfield.

Northern.—A meeting of the members of the Northern Architectural Association was held on the 12th inst., in the Old Castle, Newcastle. The President (Mr. Thos. Prosser) read an address, in the course of which he congratulated his brethren, the younger ones especially, on the greater public appreciation of the beauties of architecture in its various phases at the present day than obtained during his youth. The number of architects has increased in a much greater ratio than the population of the country. The late Mr. John Dobson, their distinguished first president, claimed to be at one time the only resident architect, pure and simple, in the county of Northumberland; the late Mr. Ignatius Bonomi being, at the same time, the only one in the county of Durham. Mr. Bonomi was the son of an Italian architect, brought to this country to build Lambton Hall, afterwards converted by the former into Lambton Castle. The Secretary (Mr. T. Oliver) said he was very wishful to resign his office, which he had held since the year 1857. He mentioned the matter now, to give time before the next quarterly meeting to select his successor.

NEW WORKHOUSE INFIRMARY FOR MANCHESTER.

The foundation-stone of the new Workhouse Infirmary for Manchester was laid on the 22nd ult. by Mr. H. J. Leppoc, the chairman of the Board of Guardians. The sale of a large portion of the Workhouse in New Bridge-street to the Lancashire and Yorkshire Railway Company (by whom the premises are required for the enlargement of the Victoria Station) having necessitated the erection of new buildings for the accommodation of the inmates of the old Workhouse,—for the most part sick and infirm,—the guardians determined to build a new Workhouse Infirmary upon their estate at Crumpsall, and in connexion with the workhouse which was erected there about twenty years ago. The site is elevated and open, being about 250 ft. above the Ordnance datum at Liverpool, and the substratum consists of a deep bed of sand. The range of buildings, with the airing-yards attached, will cover an area of nearly nine acres, and will extend 315 yards from east to west, and 150 yards from north to south. It is divided into eight parallel blocks of buildings, three on one side for males, and four on the other for females, the centre being for the administrative department. These blocks are separated from each other by airing-yards, each about 80 ft. in width, and are connected across their centre by covered corridors, sub-dividing each block into two ranges, the corridors being 275 yards long. The buildings on each side of the administrative block are to be constructed on the pavilion principle, and appropriated to the pauper inmates. They extend on each side of the corridor or covered way, and are to be three stories high, with a ward on each floor, 103 ft. long, for thirty-one beds, and an apartment at the end of each, to be used as a day-room by the patients. There are lavatories, nurses' rooms, sculleries, &c., and staircases to reach from one story to another. The wards have windows on each side, carefully adjusted with reference to the position of the beds, fire-places, &c. The central, or administrative block, comprises the medical officers', head nurses', and other officers' rooms, with the dispensary and lavatory, at the rear of which is an extensive arrangement for culinary purposes, with the necessary larders, store-rooms, &c. The sleeping accommodation for the nurses is over the back portion, and provides for each nurse separately. The washing, both for the existing workhouse and the new Workhouse Infirmary, will be carried on in one division, and for this purpose the plans include a range of buildings to be erected between the two. The architects are Messrs. Mills & Murgatroyd, of Manchester, and the clerk of the works is Mr. Joseph Armstrong.

Society of Engineers.—At the Annual General Meeting of this Society, held on the 11th inst., the following gentlemen were balloted for and duly elected as the council and officers for the year 1877, viz.: as president—Mr. T. Cargill; as vice-presidents—Mr. C. Barnard, Mr. F. W. Hartley, and Mr. R. P. Spice; as other Members of Council—Mr. J. Bernays, Mr. J. Church, Mr. C. Horsley, Mr. T. G. Iveson, Mr. T. Porter, Mr. A. Rigg, Mr. J. Walker, and Mr. F. E. Duckham; as honorary secretary and treasurer, Mr. Alfred Williams; and as auditor, Mr. W. H. Bennett. It was announced by the president that the following premiums had been awarded by the council, for papers read during the year, viz.:—to Mr. Henry Davey, for his paper on "The Underground Pumping Machinery at the Erin Colliery, Westphalia"; to Mr. Charles E. Hall, for his paper on "The Conversion of Peat into Fuel and Charcoal"; and to Mr. J. W. Pearse, for his paper on "The Ventilation of Buildings."

QUEEN ELIZABETH'S GRAMMAR SCHOOL, HEATH, NEAR HALIFAX.

On Friday, the 15th inst., the whole of the designs sent in by competing architects for the new buildings to replace the present Grammar School of Queen Elizabeth, at Heath, were exhibited for inspection by the governors of the school. The *Halifax Guardian* says that it will be some time yet ere the final selection is made, and that the public will be admitted to view the plans, which are so numerous as to fill from end to end all the stands erected for them in the large ball-room of the New Assembly Rooms. All the designs are in the Gothic style, some, it is true, being more or less freely treated. The number of plans sent in under one motto varies very much, ranging from four plans affixed to a single board, to no less than fifteen separate drawings for one design. Altogether, there are no fewer than thirty-six different designs sent in.

SEVENTEENTH-CENTURY DOMESTIC ARCHITECTURE IN LONDON.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

At the ordinary general meeting of this Institute, on Monday evening last, the 18th inst., Mr. Henry Currey, vice-president, in the chair, the following gentlemen were balloted for, and duly elected, viz.,—As Fellows: Mr. William Kidner, of Shanghai; and Mr. Thomas Prosser, of Newcastle-on-Tyne. As Associates: Mr. W. F. Bagnall, of Penge; Mr. E. J. Shrewsbury, of Maidenhead; and Mr. T. W. Willis, of St. Benet's-place, E.C.

Mr. Whichcord announced that the committee of which he was chairman had completed its work with reference to the proposed general bye-laws for building regulations, and as to which the committee had been in communication with the Local Government Board. After some fourteen sittings, and very elaborate work, he thought the committee had prepared a document that would enable the Government, if they saw fit to adopt it, to make what the Institute would consider to be a very perfect system of building regulations to be applied hereafter to all towns in the kingdom, as it was intended that the proposed statute should embrace the whole of the United Kingdom within its limits.

Professor Kerr asked whether the report referred to would be circulated amongst the members of the Institute before being submitted to the Government?

Mr. Whichcord replied in the negative, stating that as it was a report made to the Government in the first instance, it would not be available for circulation amongst the members,—at all events, not until after it had been adopted by the Government.

Professor Kerr asked whether such a course was the right one to take? If the report in question had been drawn up by a committee appointed by the council, it had virtually been drawn up by the council, and what was done by the council was done in the name of the general body of members. Surely, then, the Institute as a body ought to be informed as to the nature of the committee's recommendations? Could not the proposals be confidentially circulated amongst the members?

The Chairman read the "reference" to the committee, which directed them to "consider" and "report to provincial societies and to the Local Government Board." There was no direction as to reporting to the Institute.

Mr. Hansard said that "confidential" reports circulated amongst the members of the Institute were anything but what their name implied, and he did not consider it would be right to circulate the committee's report amongst the members (especially in view of the fact that the Government had in this matter come forward and recognised the Institute by entrusting it with this special inquiry) before it had been approved by the Local Government Board.

The subject then dropped, and

Mr. G. H. Birch, Associate, proceeded to read a paper entitled "Notes on the Seventeenth-century Domestic Architecture in London." He took a retrospective glance at old London under two widely different aspects. On the one hand, we had the Mediæval city, with accumulated historic glories of several centuries crowded within its walls, the stupendous cathedral of old St. Paul's towering above the narrow and tortuous streets and gabled roofs of private houses. In the London of Shakspeare and Ben Jonson the long roofs of several of the monastic churches were still to be seen, in spite of wanton spoliation and destruction. What things had that London seen "done at the Mermaid"! What words had it heard "so nimble and so full of subtle flame"! But its sun set for ever in the red glow of the Great Fire. Then the curtain rose on the London of the latter half of the seventeenth century. Amid the smoking embers Wren and Evelyn were elaborating, and the city was slowly rising again from its ruins. The Building Act of 19 Charles II. ordered that symmetry should take the place of irregularity, and thus was ushered in the London of the last four Stuart sovereigns, which is now so surely and swiftly being elbowed out. Attention was then called to the waifs and strays yet left us of the wreck. The districts of the City richest in relics of Elizabethan, Jacobean, and Caroline times are, of course, those wards which either wholly or in great part escaped the Great Fire of 1666,—viz., Bishopsgate, Portsoken, Aldgate, Tower, Lime-street, and Broad-street. Before the fire the London houses were half-timbered, and covered with rough-cast and plaster. Brick did not become universal until the reign of James I. The ward of Bishopsgate was especially rich in such remains, which had been exhaustively described in the Transactions of the London and Middlesex Archæological Society by the Rev. Thomas Hugo. The best preserved and most characteristic example was the well-known house of Sir Paul Pindar (+ 1650) in Bishopsgate-street. It had been sadly mutilated, but enough was left to give us no bad idea of a wealthy citizen's house at this period,—a man rich enough to give 10,000*l.* towards the restoration of old St. Paul's, and to leave, notwithstanding his vast sacrifices for the Royal cause, princely benefactions to Christ's Hospital, and to those of St. Bartholomew, St. Thomas, Bridewell, and Bethlehem. On account of alterations, additions, and partial demolitions, it was impossible to give a plan of the house; but there was very little doubt that the houses in Half Moon-street were portions of the mansion. The ceilings are exceedingly rich, one representing in flat relief the Sacrifice of Isaac; others being divided into geometrical patterns by projecting ribs, with foliage and pendants. In Great St. Helen's, immediately opposite the old priory, are some very beautiful mansions of cut red brickwork, with pilasters, cornices, and rustications, all in brick. A date, 1646, is on one of the pilasters. There was little doubt that it is from the hand of Inigo Jones. He is known to have been employed on the priory church of St. Helen, where some screenwork and doorways are still left bearing witness to his exquisite taste in design and proportion, and on comparing this work with the woodwork and general design of the houses in Great St. Helen's, and again with those on the west side of Lincoln's-inn-fields, Mr. Birch thought there could be very little room for doubt as to their designer. In No. 9, on the first-floor, is a good fireplace, which had been reproduced by Mr. Hugo, and there is another in No. 12 of the same style. Here, again, the house-front is adorned with red brick pilasters, but of rather bolder proportions and closer together, and instead of supporting a cornice, brick piers are carried up from the caps, a plain wall masking the roof and dormers. This, however, is probably an alteration. Over one of the windows is a very graceful tablet, with pediment and side scrolls in moulded brick. Crosby-square, built immediately after a fire which partially destroyed Crosby Hall in 1676, occupies the great quadrangle of that magnificent specimen of Mediæval art. The square still retains its old houses, one of which has a very fine projecting canopy over the door, delicately and beautifully carved, and many of the rooms are most handsomely panelled. Hard by, at No. 25, Bishopsgate-street, Crosby-hall-chambers, is a very noble chimney-piece. Mr. Birch attributed this house to Inigo Jones, owing to the peculiar rustication of the ground-floor. Passing on to Lime-street, the author of the paper described *con amore* a house of which he took drawings in 1872, before it was unhappily destroyed. This quarter was the Belgravia of Old London when the Court was habitually kept at the Tower. The gate was inscribed with the year 1631, but successive modernisations had robbed the outside of all interest, save, perhaps, to the antiquary. It was impossible fully to trace the history of this relic of London before the Great Fire. But there were names stirring enough identified with it. Before the fifteenth century ended the site was occupied by the town house of the powerful Scropes of Bolton, for Lime-street was then inhabited wholly by the wealthiest and greatest nobles,—the Nevilles, Bohuns, Fitzalans, Whittingtons, De Burleys, De Veres. The identification of the house in question with the Scropes was established by the will of one Richard Knyht Hastings, dated in the 20th of Henry VII. (1505). The names of the next lessees were lost by the destruction of the archives of the Fishmongers' Company, to which it had been bequeathed, in the Great Fire; but eventually the house was leased to Sir Thomas Abney, Lord Mayor of London in 1701, and the patron of Dr. Isaac Watts. In his time it underwent changes, which Mr. Birch described in detail, and the owner kept his mayoralty there. The name and estates of the Abneys passed by marriage into the Hastings family, and became extinct in the direct male line on the death of the late Rawdon Plantagenet Abney Hastings, Marquis of Hastings. The Bordieus, very eminent merchants, were the next possessors, who lie buried in the neighbouring church of St. Mary Undershaft. Mr. Birch's drawings of this old mansion were shown, and it was mentioned that the Fishmongers' Company generously presented some of the noble fireplaces to the South Kensington Museum and one to the Guildhall, the latter being the only one which has yet "seen the light" as regards exhibition to the public. Some of the oldest London inns were next passed in review, the Tabard, the Swan with Four Necks, or "Nicks" rather, and the Oxford Arms in Warwick-lane. The views of the last taken by the society for photographing Old London were exhibited. The Oxford Arms was rebuilt immediately after the Great Fire, as a contemporary advertisement of Edward Bartlett, an Oxford carrier, whose head-quarters the inn was, demonstrably proved. These old inns were built on a sort of traditional plan, so that the present Oxford Arms resembled the old model. Old river-side houses, ancient tenements in Hoxton High-street, Wapping, Blackwall, Aldgate, Mile End-road, and Gray's-inn-lane were next spoken of, and then followed more detailed accounts of Lambeth Palace, Middle Temple Hall, Lincoln's-inn, Gray's-inn, with a slight mention of the minor Inns of Court. The history and architecture of the Charterhouse were sketched more fully. Before concluding the lecturer spoke of "one little gem of a room" in the Ward Schools of St. Botolph, Billingsgate, all panelled in oak, and in each of the panels an excellent painting in chiaroscuro in a very perfect state of preservation. Attention was also called to a house in Mark-lane,—not the well-known old house on the right going from Fenchurch-street, but on the left, close to the Corn Exchange, in which there was a very perfect room with a high chimney-piece, elaborate architrave and pediments to the door, with a very richly decorated plaster ceiling. Unhappily, it was about to be pulled down. In conclusion, Mr. Birch urged all architects whose practice brought them in contact with specimens of old domestic architecture to preserve whatever was possible, or failing that, to have measured detailed drawings made for publication or for presentation to the Institute of Architects or some cognate society.

In the discussion which ensued,

Mr. H. W. Brewer remarked that such papers as the one before the meeting were of the greatest possible value, inasmuch as they stored up a vast amount of useful information which could not fail to be of great value when the buildings referred to had passed away. With respect to the old house in Lime-street, he wished to ask Mr. Birch whether it was not possible that the house itself was more modern than he had stated it to be?—whether, in fact, it was not likely that the whole house had been rebuilt about a century ago, and the old fittings from the previous house, such as panelling, doors, and so forth, used up again in the new house? That was his (Mr. Brewer's) impression when he visited the house; there was an extremely modern look about the brickwork in the lower part of the house. He also wished to ask Mr. Birch whether any portion of what (judging from drawings he had seen) must have been a magnificent hall belonging to the Leathersellers, situate, he believed, close to the Church o St. Helen, Bishopsgate, remained? [Mr. Birch Not a stone of it remains.]

Mr. Phené Spiers called attention to a series

of photographs (six in number) illustrating the Oxford Arms Inn, Warwick-lane. These photographs were published by a society which had recently been established with the view of photographing portions of Old London. The Society proposed to publish six photographs per year, which would be issued to every subscriber of half-a-guinea. Mr. Marks, a brother of the well-known artist, had undertaken the management of the Society.

Mr. Hansard moved a vote of thanks to Mr. Birch for his interesting paper, and to Mr. Gardiner for his kindness in lending so many interesting prints and drawings in illustration of the subject. He regretted, however, that Mr. Birch had not said something as to the very excellent and interesting external ironwork which characterised the domestic architecture of the period under discussion.

Sir Walter Stirling said that not only did he regret, with Mr. Birch, the rapidity with which interesting portions of old London were removed to make way for modern changes or "improvements," but he regretted the extreme rapidity with which Mr. Birch had read his paper, seeing that very few persons could possibly have followed his remarks. In these days, when Belgrave-square rose with an unblushing front, and when Carlton-gardens appeared to be a base imitation of Belgrave-square, it was most desirable that public attention, and especially the attention of architects, should be called to the higher taste, the greater finish, and the elaborate beauty of buildings that had gone before. One would almost suppose that we were living in a barbarous age, like that of the Goths and Vandals, but for the great advance which had been made in architectural skill since the restoration of Windsor Castle. He did not know whether that work might be considered the mainspring of the revived taste for architecture, but probably all present would agree with him that it was a pity that the Castle was not restored at a subsequent period. As pertinent to the subject dealt with in the paper, he should like to know whether the new roof to the Guildhall of the City of London was considered by architects generally to be an advantage and improvement to the structure? It certainly obscured the light to a great extent. Then as to the removal of Temple Bar, there were two opinions on that subject. Whether the Bar was to be restored in its present or in some similar shape, or carried elsewhere, was a debateable question.

Mr. Whichcord, in seconding the vote of thanks, said the subject of Mr. Birch's paper was a very interesting one, and the Institute was to be congratulated on the fact that it had been read within its walls instead of being remitted to the Society of Antiquaries, or to either of the archæological societies. It appeared to him that, as often as possible, the Institute should endeavour to get papers read before it which, while to a great extent archæological, were at the same time eminently architectural, for the dual subject was one particularly suited for discussion at meetings of the Institute. No architect could have practised (as it had been his good fortune to do, to a large extent) in the city of London without continually coming in contact with a large number of interesting remains of the class referred to in the paper,—many of them in obscure and small places, and in small portions, but containing within them germs of considerable interest. To make way for modern necessities, not to say "improvements," a great number of these relics were obliged to be destroyed. Mr. Birch had brought to the notice of the meeting a great number of them. The paper was one of peculiar interest to the profession, because it took up a period which until very lately indeed had not received that amount of attention which had been bestowed upon preceding and subsequent periods. When we once got away from the Tudor period, we arrived at a totally altered condition of things; and beginning, as the seventeenth century did, with the very last years of the reign of Elizabeth, and extending up to the time of Queen Anne, it might be called the "Stuart" period of architecture. The style of this period seemed to denote the change from the Gothic type, as it passed through the Tudor period to the time of Queen Elizabeth,—and, in fact, the seventeenth century began with Elizabethan work. Mr. Birch had alluded to the late Charles James Richardson, who was an elaborate practitioner in, as well as an elaborate writer on, this style. He (Mr. Whichcord) knew of no one who appeared to love a style more thoroughly than Richardson loved the style he worked in, and that, be it remembered, at a time when comparatively little attention was given to the style. In his book he gave some illustrations of the works of John Thorp, which were very largely spread over the country, especially in Lancashire, Cheshire, Nottinghamshire, and the north-western portion of the country generally. In Thorp's buildings there was great quaintness of plan. As an instance might be cited the plan |T he designed for his own house, with the quaint motto,—

"Of these two letters | and T
Join'd together as you see,
I make a dwelling-house for me."

In quaintness and peculiarity, yet in perfect adaptability to practical requirements, the planning of Thorp was unequalled. For instance, in the planning of his own house, he was able to get two secluded court-yards, from which his rooms were lighted. Then, again, how cleverly-arranged was the planning of the houses of this period with the view of enabling all the principal rooms to face the south-west (as they should do in this climate), while at the same time the surrounding walls were kept free from apertures. In fact, good planning seemed to have been a primary consideration with the architects of the period. Mr. Birch had referred to Inigo Jones, but it should be borne in mind that in dealing with his name we were dealing with a giant. Both John Thorp and Inigo Jones and their school were antecedent to the Fire of London, but subsequently to that event we had Sir Christopher Wren and Sir John Vanbrugh. These were four men such as hardly any century could produce. They practised largely, and produced some grand buildings. Different, no doubt, their works were, and a very great difference was to be remarked between the works of the earlier of them (Thorp) and those of the latest (Vanbrugh). He had not heard Mr. Birch attribute any of the works he had referred to to Vanbrugh, although it was well known how largely he was engaged in the city towards the end of the seventeenth century. Amongst the least successful of his works was perhaps St. John's Church, Westminster, with its four angle towers, and which had been irreverently likened to an elephant on its back, with its four legs raised in the air.*

Professor Kerr said that architects were chiefly interested, in respect of the subject of Mr. Birch's paper, in that remarkable phase of art which was connected with the transition from the end of Mediævalism to the commencement of Classicism properly so called; and at the present day, when we were passing through a somewhat similar act of architectural change, it seemed to be peculiarly desirable that a clearer understanding should be arrived at than was at present possessed as to the characteristics of that style of architecture which Mr. Whichcord had so aptly named the architecture of the Stuart period. A good deal had been heard of late as to Queen Anne architecture, and he had been reading a book written by two young ladies on the subject of Queen Anne furniture, and found from their remarks that the style of Queen Anne (so-called) was acquiring more and more authority amongst those who might be considered to be leaders of taste at the present moment. It had been said that the style of Queen Anne was no style, because her reign had been too short to allow of the development of anything like a distinctive style. But if we took the whole of the period of the seventeenth century, as Mr. Whichcord had said, it would be possible to perceive a definite and distinct act, namely, that of the transition from Elizabethan to the style of Inigo Jones. He was inclined to think Mr. Birch was in error in ascribing much of the rococo work he had referred to in his paper to Inigo Jones. In his opinion Inigo Jones was incapable of producing such work, and it should be clearly shown, if possible, that he was its designer. Seeing that many architects of the present time had taken up Queen Anne, or rather Stuart, work,—for reasons which were no doubt very good, and which would no doubt turn out to be philosophic,—as a transition from the Mediæval architecture which they had so well exhausted, to the Classic architecture which was presently coming, it was time that they should seriously begin to understand from examples what the principles of the style really were, because it was unquestionable that the merits of the style were most distinct, and if architects were going to work in that style it was desirable that they should study its examples as systematically and as thoroughly as their predecessors had studied the forms of Gothic architecture during the past thirty years. He therefore ventured to suggest, in all seriousness, that some sort of text-book or book of examples of the Stuart style ought to be published, and he thought that in the drawings and prints exhibited on the walls, and in existing buildings of the seventeenth century, there was ample material for a most interesting and useful book of the kind he had named.

Mr. Eastlake having made a few remarks, the chairman put the vote of thanks, which was carried unanimously.

Mr. Birch, in acknowledgment, said that the house in Lime-street was certainly not so modern as Mr. Brewer was inclined to suppose. As to the Guildhall roof, he believed that Mr. Horace Jones and Sir Digby Wyatt (who was consulted on the subject) had good authority for the form which the restored roof had taken. As to Inigo Jones and rococo work, if Professor Kerr would go and look at the south door of St. Helen's Church, Bishopsgate (which was known to be by Inigo Jones), and compare it with some of the buildings he had referred to, he would see that there were very strong grounds for supposing that Inigo Jones was the designer of all.

The next meeting of the Institute will be held on Monday, January 8, 1877, when Mr. John Lanyon is announced to read a paper "On Sanitary and Practical Appliances calculated to Increase the Comfort of Dwellings."

* We have before now pointed out that Archer was the architect of this church.—ED.

PRACTICAL ENGINEERING AT THE CRYSTAL PALACE.

SINCE the Crystal Palace School of Engineering in connexion with the Company's School of Art, Science, and Literature was opened four years ago, the scope of its curriculum has been, albeit pretty wide at the outset, continuously and considerably extended. Originally the course embraced instruction and training in the drawing-office, in the pattern-shop, smith's shop, and foundry, and in the fitting-shop. To these an extra section has been added, in which the first term is devoted to general surveying and the preparation of plans, &c., for Parliament; the second term to the calculation of strains, and the preparations of general and working plans, specifications, and estimates of a railway and dock. The last extension of the course has been the addition of a Colonial section, designed particularly for gentlemen who intend to proceed to the colonies or abroad as explorers or settlers.

The winter term of the school closed on Saturday last, when the certificates awarded by the examiners, Messrs. John Imray, M.A., M.I.C.E., and D. K. Clark, M.I.C.E, were presented to the successful students by Mr. W. H. Barlow, F.R.S., vice-president I.C.E.

Mr. Barlow, who was introduced by Mr. Thos. Hughes ("Tom Brown"), chairman of the Palace company, delivered an interesting practical address to the students. Machinery, he said, was employed for locomotion, agriculture, manufacturing processes of all kinds, and in a thousand ways illustrating the importance of the engineering profession, and any institution that secured better education to young engineers, as this school did, he considered a boon to the country. Young men frequently entered engineers' offices devoid of the knowledge absolutely necessary as a foundation for the profession of civil engineers. This school supplied the want in giving the students some knowledge of applied science, and of the technical mode in which those sciences were brought into operation. The arrangements of the school throughout,—and he had thoroughly examined them before to-day,—were excellent. He, Mr. Barlow, had recently come from Philadelphia, where he had been asked to serve as one of the judges at the Centenary Exhibition. He found, as he had expected to do, from the inventive genius of the Americans, that they executed great works. At Niagara, there was a suspension bridge, carrying railway and road, of 810 ft. span; near it was another of 1,110 ft. span; and there was another now building between New York and Brooklyn of 1550 ft. span. The widest span of any suspension bridge in this country was the Clifton Bridge, on which he had been engaged with Sir John Hawkshaw, and it was only 702 ft. span. Cast-steel wire was extensively employed in these great structures, and he hoped that our Board of Trade might be induced ere long to sanction the introduction of this excellent material for structures in this country of a similar kind, possessing, as it did,

greater power of resistance to strains than any other, weight taken into the account.

Mr. Shenton, superintendent of the School of Art, Science, &c., then read the examiners' report to the committee of directors, which was much more full than those hitherto presented.

The chairman then proceeded to present the certificates. Thirty-six students had attended the lectures, and twenty-three presented themselves for examination, of whom eighteen passed satisfactorily. Mr. Wilson, the principal, stated that this was the highest percentage to which they had as yet attained. The highest number of marks possible is 232. The highest was S. R. Lowcock, with 202 marks; second, A. Jones, 199; and, third, E. Foord-Kelcey, 191; the others ranged from 189 to 107 marks. Each of these eighteen students had a second certificate for proficiency in some special department. In the drawing-office ten certificates were awarded,—L. S. M. Marsh, first; and L. W. Toms, second. In the pattern-shop and foundry, &c., thirteen certificates were awarded,—G. S. Firth, first; and A. R. Sennett, second. In the fitting-shop, ten certificates were awarded,—S. R. Lowcock, first; E. Foord-Kelcey and A. Jones, equal seconds. In the civil engineering section, first term, ten certificates were awarded,—E. A. Royston, first; S. A. Tidey and Lloyd Wilson, equal seconds: second term, A. T. Bean, first; and F. S. Richardson, second.

Thanks moved by Mr. Hughes to the examiners and to Mr. Barlow were acknowledged by Mr. Imray and Mr. Barlow.

Mr. Wilson, the principal, reported upon visits paid by the students to Birmingham, and to Earl Dudley's works, and that prizes received from Earl Dudley's manager for essays on the visit had been awarded to Mr. Howard Newton, first and leading student in the Colonial section, Messrs. Sennett, Bean, Byng, Marsh, Millidge, Lowcock, and others.

THE PAST AND PRESENT OF ARCHITECTURE IN IRELAND.*

Besides the great public buildings mentioned, the number of splendid private mansions erected, both in Dublin and the country during this period, is past counting, and, taking both together, we may look on it as the Augustan age of Irish architecture. A comparison of the court end of London at that time,—including the classic district of Mayfair, and the town houses of the Earls of Chesterfield and Burlington,—with the corresponding districts of Dublin, would not be at all unfavourable to the latter city. Foremost amongst these town houses, or *palazzi*, as they would be called in Italy, comes Leinster House, a noble and complete specimen of the aristocratic mansions of the time, the proportions and details of which are well worthy of study on the part of our younger members. Then we have Powerscourt, Tyrone, Charlemont, Aldborough, and numerous other stately mansions, not unworthy of mention beside the palaces which line the Strada Nuova at Genoa, or the Corso at Rome. In the house of the Provost of Trinity College we have a choice work of the Earl of Burlington, the most distinguished architectural critic and amateur of his time. Degraded as, alas! so many of these noble mansions are from their former uses, they yet impart a spaciousness and grandiosity to the portions of the city in which they are situate that I should be sorry to lose. As the special correspondent of *Punch* observed recently, they made Dublin look "old-fashioned and highly respectable."

The country mansions of the corresponding time are nearly always conceived in the same grandiose and symmetrical manner, and are particularly remarkable as compared with more modern structures for their sound and durable construction. They do not compare unfavourably with those erected at the same time in England, illustrated in the "Vitruvius Britannicus," except that we have no such princely and sumptuous ones as Blenheim, Castle Howard, Kedlestone, or Wanstead. Nevertheless, Carton, the seat of the Duke of Leinster; Powerscourt House, County Wicklow; Ardbraccan, the palace of the Bishop of Meath; and others too numerous to mention, present fair specimens of the Hiberno-Classic country-house, and are distinguished by the same stateliness, grandiosity, and solidity as the contemporary great houses in England. Some of the great architects of the latter country were glad to come over and execute commissions in Ireland,—in particular, Sir William Chambers, one of whose choicest works, the Casino at Marino, erected for the Earl of Charlemont, is within half an hour's drive of Dublin, and is richly deserving of being measured and delineated by architectural students. I observe this property has been recently advertised for sale; let us hope, if cut up,—as it is likely to be,—into lots for villas, that this charming work of a great master will be respected, and not altered into a Cockney villa, or, worse still, a public-house.

I have referred to the solidity observable in the construction of the buildings of this period. I might further draw attention to the elegance of the details and the richness and variety of the internal decorations, especially of the ceilings and chimney-pieces. The plaster-work was commonly wrought by hand by real artists, instead of being cast mechanically by a common workman. As for the chimney-pieces, it is remarkable that numbers of them having been taken down and replaced by modern rubbish, having been cleaned up and re-polished by some of our local marble workers, have fetched high prices in England, the recent revulsion in favour of the Queen Anne style having brought their good points into notice.

This architectural era closed with the Union, and brings us within a generation of the present. I have often wondered what a plight Dublin must have been left in by that important measure! How the lines of stately mansions must have looked after the departure of their aristocratic inmates! It is an ill wind blows no good; and soon we find the leading members of the legal and medical professions taking up their abodes in the deserted houses of the nobility. Dr. Bolus moves from Kildare-street into the mansion of Lord Poldoody in Merrion-square; Mr. Counsellor O'Fee, late of York-street, takes up his quarters in Lord Kilgobbin's late house in Stephen's-green. Some of the houses are found too big for the new inmates, even for the swell doctor or portly counsellor, and have to be divided into two unequal parts,—one retaining the spacious doorway, hall, and grand stairs; the other having to put up with the servants' stairs, a new doorway being made into it. For many even a worse fate is reserved. This is turned into a circumlocution office, that an hospital for incapables; another is purchased for a mere song by a firm of dry-goods merchants; another, still worse, cut into tenement houses! Sad it is to contemplate these reverses, and the sooner we pass from them to something more cheering the better.

The architectural history of Ireland during the thirty or forty years following the Union is not altogether so meagre as might be expected. Two leading practitioners seem to have flourished in Dublin,—Francis Johnston and Richard Morrison,—acquiring both fortune and fame by their practice. The Post Office, College of Surgeons, and St. George's Church are amongst the works of the former. The church is worthy of notice as by far the most stately of the parish churches of the city, and worthy to compare with some of the best works of Wren or his pupils, Gibbs and Hawksmoor, in London. He also added the chapel to the Castle,—a fair specimen of the Gothic of the time. Mr. Johnston deserves honourable mention for his munificent gift to the Royal Hibernian Academy of the present house. He was one of the first presidents of that body. Sir R. Morrison enjoyed a large practice in country mansions, for which a kind of sham castellated style was then the fashion, and also achieved a reputation for his knowledge of Greek architecture by the two large Roman Catholic churches of Marlborough-street and Westland-row. In the south of Ireland the Paines (one of them is still living, I believe the oldest architect in the kingdom) enjoyed a large practice. Mitchelstown, Dromoland, and Loughcarte Castles, and nearly all the county and public buildings of the province of Munster during the time, were erected by them. It is to this period we owe the Theatre Royal, the interior of which, whether for size, proportions, or decoration, ranks high amongst those of the chief cities of the world, but which, in common with most of the London theatres, suffers much from its surroundings and squalid exterior. The extension of Dublin, Limerick, and other cities by the building of new streets and squares which took place during the same period is very remarkable, having regard to the adverse influence of the Union on the number of resident gentry.

We now come to the present, meaning the lifetime of the present generation; and while we may not be able to point to progress equal to that of other centuries, it is gratifying that we can still point to much. The introduction of the railways gave a great impetus to architecture in the buildings connected with them, and those erected by some of our leading lines,—*e.g.*, the Great Southern and Western and the Midland Great Western of Ireland,—are decidedly above the average. It is to be deplored, however, that the really noble termini of these lines are in out-of-the-way places, while two of those which occupy commanding positions,—namely, the Wicklow and Kingstown lines respectively,—are mean and contemptible in the last degree. Let us hope that, as there has been an enormous advance in the value of railway property recently, owing to the increased traffic of the lines, the attention of the directors will be given to providing more suitable and dignified buildings at these important points. The banks have nearly all found it necessary to rebuild their head-quarters, as well they might, considering the enormous increase in their deposits and dividends. Most of these buildings are honourable to our profession, in particular the Hibernian Bank, just completed by our late president, which, for vigorous and original treatment, solid construction, and careful arrangement, will compare favourably with any similar structure I know of. The number of country branch-banks erected is beyond all counting, and, though of course modest in comparison with their metropolitan head-quarters, they are generally neat and appropriate buildings. Some of the provincial cities,—notably Belfast and Cork,—seem determined to be no way behind Dublin in the style of their banks as well as other public buildings. Next we have the insurance companies, which, although their head-quarters are usually located on the other side of the Channel, find it important to have their Dublin offices spacious and attractive, and have built, or are building, numerous handsome structures. We have then the warehouses and shops, of which the proprietors, too, seem to become at last alive to the fact that well-designed buildings for trade purposes are good investments.

When we come to notice the churches of all denominations erected during our last period, however, the progress is most remarkable, and were we to judge by them alone, we might still claim for our country its old appellation of the Island of Saints. The returning Irish emigrant, fresh from the grandeur of Fifth-avenue, New York, sees on the heights of Queenstown a stately cathedral rising, and when he goes up to the fair city of Cork, sees there another already risen, with neither of which New York, for all its boasted wealth, can as yet show anything to compare. If he goes on to Dublin, he sees there the venerable pile of St. Patrick's restored, and the other cathedral of Christ Church in process of restoration, all being accomplished either by voluntary contributions or single-handed munificence. Two stately fanes rise over the primatial city of Armagh to mark the seat of Ireland's great apostle, erected in the same manner. Dr Neilson Hancock has pointed to the statistics of the deposits in banks as evidences of the prosperity of the people, but perhaps another corroborative index would be found in the number and stateliness of the buildings erected by the various religious communities. The Roman Catholic Church stands first in point of numbers, and it must be gratifying to the members of that church to reflect that at no period in Ireland's history were so many and such noble buildings erected for its worship as during the last twenty-five years. It is rumoured that a metropolitan cathedral for the arch-diocese of Dublin is projected, that in Marlborough-street being now only called a pro-cathedral. Let us confidently anticipate that it will be a worthy one, and mark an important period in the architectural history of the country. Then if we look at the recently Disestablished Church, we shall find no signs of weakness such as were feared from its new position. The extinction of the Ecclesiastical Commission, with its mechanical system of building and repairing churches, has been no great loss architecturally. The liberality of the laity is now called forth, not to be put to the blush by their Roman Catholic countrymen, and a field of practice, hitherto almost closed by the official system, is now thrown open to private architects. If we are to judge by the crowded state of the churches in the suburbs of Dublin, more will soon be required, and let us hope that more correct canons of taste will be recognised in them. And if we look further at some denominations not hitherto remarkable for their

* By Mr. W. Fogerty. See p. 1223, *ante*.

appreciation of architecture, we see much that is hopeful. One of the handsomest churches in Dublin was erected some years ago for the Presbyterians in Rutland-square by a private individual; and a church has been just built and handed over to the Wesleyan Methodists in Belfast by another, which is acknowledged to be the finest building yet erected anywhere for the worship of that wide-spread body—an especial honour both to Irish Methodism and the eminent Irish architect who designed it.

The lunatic asylums of the country have nearly all been enlarged, and many new ones erected during a short period; and at present several of the Dublin hospitals are being enlarged, let us hope to increase their efficiency, and maintain the *prestige* of the Dublin medical school, which owes so much to them. Buildings for pleasure and recreation have not been neglected, new theatres having been erected in Dublin, Belfast, Cork, and Waterford. The Dublin Exhibition Palace, although a financial failure, has served important purposes, and may yet, with its gardens, become a pleasant place of resort and recreation, which seems to be fully the case with our new and fashionable skating-rinks.

If we are to believe the statistics already referred to (putting Dublin for a moment out of the question) a larger proportion of our nobility and gentry now reside on their estates, and for longer periods than at any former time. This is a most hopeful sign, and leads me to remark that if the number of new mansions on a large scale erected throughout the country is not great, yet the style and finish of those that have been erected of late show a great advance. There is, however, a pretty extensive demand for a more modest type of country residence, especially in the environs of Dublin, Belfast, and Cork, and suburban villas on a smaller scale are still more in request. These latter, it is to be regretted, are too often handed over to the tender mercies of the speculative builders, who have filled the otherwise pleasant townships of Rathgar, Pembroke, Kingstown, and similar places with smug boxes or terraces, neatly faced or wigged with red brick, but the bareness of whose flanks and rear is most disagreeable, to say nothing of the flimsy construction and the little comfort to be had within. It is rare to meet one displaying any care or taste in its design,—a most unsatisfactory state of things which it concerns both our profession and the public to remedy.

We have spoken much of the mansions of the nobility and the residences of our wealthy middle-class; something should be said relative to those of our working population. I fear that as regards neither past nor present times can anything congratulatory be said on this subject. The dwellings of the peasantry and town working people of Ireland have been too long a reproach, but they were, and are still, commonly looked upon as beneath the notice of architects, or outside their province. With the increase of wages, and abundant employment which we have witnessed of late, this is a state of things which ought to find a remedy. I am glad to observe some efforts being made in that direction by the formation of an industrial tenements company, with a competent professional adviser; and it is to be hoped that among the good things which the future has in store, the amelioration of the dwellings of the working classes will not be wanting.

A bond of union and means of connexion for our profession in Ireland, and with our brethren who practise the same art in Great Britain, is still a desideratum. On this subject the recent address of the president of the Royal Institute of British Architects contains most valuable suggestions, which will be endorsed by every sensible architect in this country, although deprived of much of its political importance by the Union. The city of Dublin possesses many advantages as a centre for architectural education and practice, which it behoves us not to let slip. Its university, theological, medical, and legal schools enjoy a world-wide reputation. Why should it not take fair rank for its architectural school also? Having had occasion to note so much that is great in the past and encouraging in the present, let us look forward with hopeful eyes to the future.

Surveyor to the Board of Customs.—The *Civilian* says the Government have resolved to abolish the post of surveyor of buildings to the Board of Customs, and transfer the duties to the Office of Works.

SOME OLD HOUSES AND THEIR STORIES.

GOODMAN'S FIELDS PLAY-HOUSE AND GARRICK'S VILLA AT HAMPTON.

ON our way to Hampton we first take a look at a famous East London institution,—the Sailors' Home, in Well-street, Wellclose-square. The well and close which gave this eighteenth-century square its name were those of an old farm held in the sixteenth century from the Nuns of St. Clair,—called the Minories, or Minoresses,—by one Goodman. To this farm, Stow, as you may have read in his "Survaie," used to go across the fields to fetch "many a halfe penny worth of milk, and never had less than three ale pints for a penny in the winter, alwaies hot from the kine, as the same was milked and strained." Long after poor old Stow had died in poverty, sickness, and age, that is to say, after 1605, houses had sprung up here and there amongst the old nunnery gardens, trees, and hedgerows, the foremost heralds of invading London. While Charles II. was enjoying his "merry" sway, there stood, where this Sailors' Home now is, a little meeting-house of poor, persecuted, player-hating, player-ridiculed Presbyterians, or Independents, with its grave-yard attached to it; and there it stood through the gloomy reign of the second James. And there it stood in 1703, when a journalist of that day wrote as follows:—"The great play-house has calved a young one in Goodman's Fields, in the passage by the Ship Tavern, between Prescot and Chambers-street;" adding, "It is in a very good place in Rosemary-lane precinct; I know no reason why the quality at both ends of the town should not have the same diversions. This will be a great ease to the ladies of Rag Fair, who are now forced to trudge as far as Lincoln's Inn Field to mix themselves with the quality. The Mumpers of Knockvargis will now have the play-house come to them, who were not able to stump it to the other end of the town on their wooden legs: the does on Tower-hill Park and Rosemary-lane precincts will be foddered nearer home this winter; and the sailors will have better entertainment for their loose coins than formerly."

Thus wrote Tutchin in the *Observator*. But there were those who spoke of the new building in a very different spirit, for it stood close beside the old meeting-house, and covered the very graves of the pious, persecuted, long-suffering ancestors of its worshippers. They, of course, raised a great outcry against it, and the Rev. John Matlock, their minister, in pulpit and pamphlet, denounced the wickedness thereof with unsparing severity. Many believed that a curse would rest upon the place; that prosperity would never bless it; and that all who belonged to it would incur God's wrath.

And, strange to say, for many years after, something ailed the place; its history became one of constant misfortune and disaster, and so continued to the last.

By 1729 its earliest career as a theatre was over, and it was let out in tenements to the silk-throwsters and weavers who had formed a little colony in its neighbourhood. In that year the first licensee of the stage under Walpole's Licensing Act was a dramatic author named Thomas Odell, and he, unfortunately for himself, determined to revive the then already forgotten Goodman's Fields Theatre. Accordingly he displaced the honest weavers and throwsters, and set his workmen to pull down and restore, the painters and gilders to decorate, and the players to rehearse a new piece by one since known to fame as Henry Fielding. But ill-luck, the opposition of the lord mayor, aldermen, and his more respectable neighbours, and a sermon preached against the new theatre in Bishopsgate, at St. Botolph's Church, so frightened him, that he soon after sold his newly-acquired property, at a ruinous loss, to Mr. Henry Giffard, an actor, who pulled down, re-erected, and re-opened it in 1732. "He, however," to quote Cassell's "Old and New London," "was soon scared away, and in 1735 removed to Lincoln's Inn Fields." In 1741, however, he returned, and in that year a "stage-struck" young gentleman from Lichfield, who had been in the wine trade, and who had previously made a successful *début* in Ipswich, under the name of Lyddal, and had resolved to adopt the stage as a profession, joined his company. His name was David Garrick, and Goodman's Fields Theatre has ever since been known, and ever will be known, as the house in which his wonderful histrionic career had its real commencement.

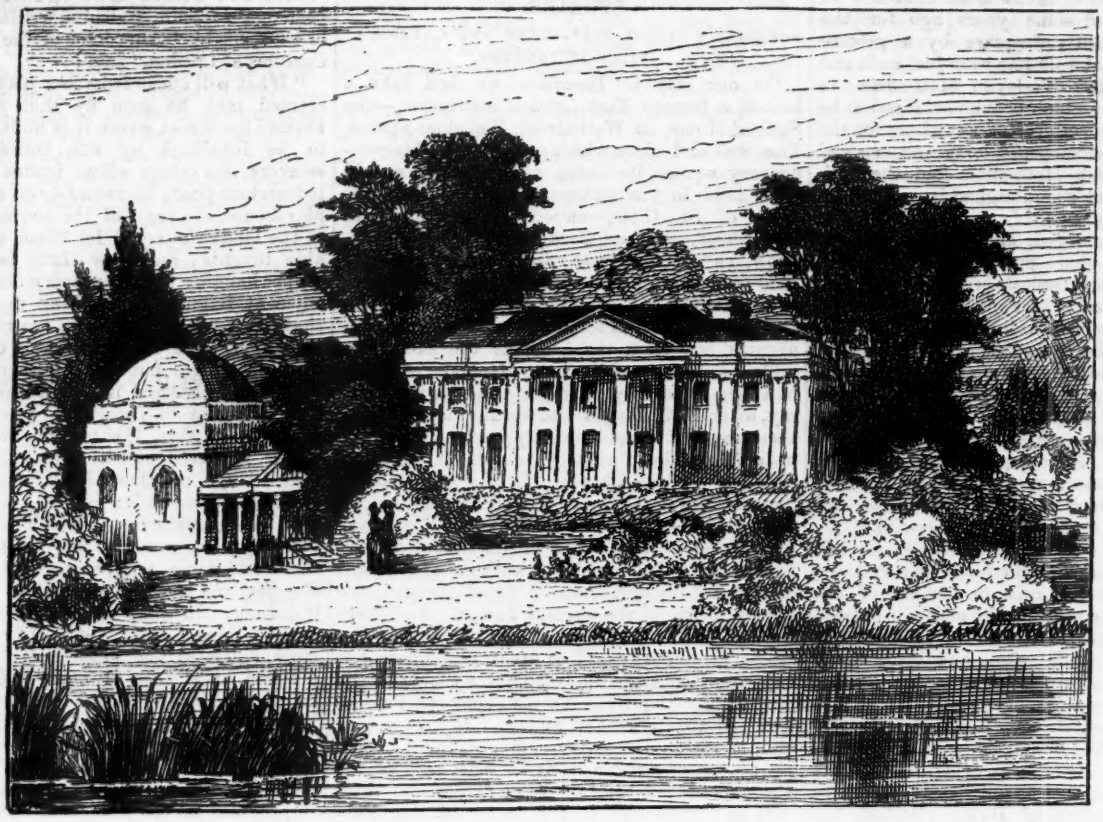
As to the theatre, it was pulled down in 1746 rebuilt, and burned down in 1802, and having been again rebuilt, Malcolm, writing of the place in 1807, for his "Anecdotes of the Manners and Customs of London," said:—

"What will ensue from *new* play-houses being erected may be seen by that at Goodman's Fields: the street where it is built used formerly to be inhabited by silk-throwsters, riband weavers, and others whose trades employed the industrious poor; immediately on setting up this play-house, the rents of the houses were raised, as the landlords could let them to more profitable tenants; and now there is a bunch of grapes hanging to almost every door; besides an adjacent Bagnio or two,—an undoubted proof that innocence and morality are not the certain consequences of a playhouse. I could urge this much further; but as the regulation of the number of theatres is now before Parliament, *they* only are to determine whether the continuance of this Theatre, or the increase of others, is consistent with the public good."

In 1820, a member of Parliament, Mr. Peter Robinson, essayed its revival. Its locality was then a semi-rustic one in which handsome houses belonging to wealthy merchants had grown more and more numerous. He called it the Royalty, and thought it ought to succeed. But it did not. In 1826 it was, for the third time, burned down. Two years after it arose once more, enlarged and beautified under new proprietors at a cost of over 25,000*l.*, and was called the New Royal Brunswick Theatre. The newspapers gloried in its beauty and numerous improvements. Everything that could make it a success had been secured. Two days after its completion, while a rehearsal was in progress, its too ponderous iron roof suddenly fell, crushing it into dust and ashes, destroying several of the surrounding houses, and burying in its ruins about 170 individuals. The newspapers filled pages with accounts of the awful disaster, and returned to it day after day. Savage mobs were aroused by it to attack the house of Mr. Whitewell, the architect, and endanger his life; the soldiers were called out from Tower-hill by it; sensational pictures of it, and sensational pamphlets on it, appeared all over London, and many of them may still be seen in the Guildhall Library. The old story of the meeting-house and graveyard was revived, and there was much talk of dead men's curses.

But the strange history of that ill-luck-haunted old house with its stories of ruined managers—poor John Palmer, who died on the stage while playing "The Stranger" amongst them; its desperate and useless bids for popularity; its law-persecuted and cruelly-imprisoned players; its odd schemes for evading a partial and unjust law when Parliament, secretly venting its spite against Fielding, limited the number of theatres; its celebrities of the theatrical world whose fame yet lives in the stage's latest records; its tragic, romantic, and farcical stories,—would fill a volume, and we are but briefly noting these few facts as, chatting and leisurely, we pursue our way from the old "Brunswick Maritime Establishment," now called the Sailors' Home, to Hampton.

The only brief glimpse of real prosperity which the Goodman's Fields Theatre ever knew began on the 19th of the aforesaid October, 1741, and was remarkable. The nameless young wine-merchant's success was, indeed, wonderful. In the first place, the theatre being without a licence no regular dramatic performances could be given; in the next place, it was in bad repute from the fact of so many beginners having displayed their incapacity upon its boards. Its rows of boxes and seats were always drearily empty, and it had all those elements of neglect, dirtiness, shabbiness, and discomfort which make a continuously unsuccessful theatre one of the most mournful of saddening sights. The courageous little fellow, despite all these things, succeeded mightily. He was not announced by name in the play-bill, but (falsely) as "a gentleman who had never appeared on any stage" to play Richard III., with other persons, who with him, performed gratis "for their diversion." The prices of admission, to avoid the law, were nominally paid for a commonplace concert, which preceded the play. The first night Garrick puzzled his critics. They could not doubt his success, but then there was something so startlingly novel in the realistic force of his acting. Richard in him was a real man, old stage traditions were ignored, nature assumed the place of art, the actor was altogether lost sight of. If this new player was right, the



Garrick's Villa at Hampton.

actors in whom they had so long delighted were clearly wrong. For seven nights his increasing fame improved the business, the previous state of which may be guessed, when we add that although the house was a large one, the sum taken in those seven successful performances averaged considerably less than 40*l.* a night. But afterwards the receipts rapidly and wonderfully increased. In Davies's "Life of David Garrick—of which, by-the-bye, the writer has Boaden's copy, containing notes in his handwriting,—we read, "Such was the universal approbation which followed our young actor that the established theatres of Covent-garden and Drury-lane were deserted. Mr. Garrick drew after him the inhabitants of the most polite parts of the town; Goodman's Fields was full of the splendour of St. James's and Grosvenor square; the coaches of the nobility filled up the space from Temple Bar to Whitechapel. He so perfectly convinced the public of his superior accomplishments in acting that not to admire him would not only have argued an absence of taste, but the grossest stupidity; those who had seen and been delighted with the most admired of the old actors, confessed that he had excelled the ablest of them. . . . . Mr. Garrick shone forth like a theatrical Newton; he threw new light on elocution and action; he banished ranting, bombast, and grimace; and restored nature, ease, simplicity, and genuine humour." Quin, who had been the greatest actor of the day, sneered at him as a preacher of heresy, and said, "Whitfield was followed for a time, but they will all come to church again." Chapels, however, survived Whitfield, and Garrick's school is still that of all great modern actors. Garrick, replying to Quin, wrote,—

> "Doctrines which meet with general approbation
> Are not call'd heresy, but reformation."

Colley Cibber came from Drury-lane to see him play *Bayes*, and speaking of him as the "completest little doll of a figure," said he did not think him superior to his son Theophilus. Mrs. Bracegirdle, who had then been off the stage more than thirty years, said of him,—"The actor who pleases everybody must be a man of merit." Pope said,—"That young man never had his equal as an orator, and never will." Garrick, speaking of Pope's presence in the Goodman's Fields Theatre, says,—"When I was told Pope was in the house, I instantly felt a palpitation at my heart,—a tumultuous, not a disagreeable, sensation in my mind. I was then in the prime of youth, and in the zenith of my theatrical ambition. It gave me a particular pleasure that *Richard* was my character when Pope was to see and hear me. As I opened my part, I saw our poetical little hero, dressed in black, seated in a side-box near the stage, and viewing me with a serious and earnest intention. His look shot and thrilled like lightning through my frame, and I had some hesitation in proceeding from anxiety and from joy. As *Richard* gradually blazed forth, the house was in a roar of applause, and the conspiring hand of Pope shadowed me with laurels."

Horace Walpole, writing in 1742, said,—"All the run is now after Garrick,—a wine-merchant who is turned player at Goodman's Fields. He plays all parts, and is a very good mimic." But Walpole did not think very highly of his acting, nor did the poet Gray, who wrote,—"Did I tell you about Mr. Garrick, that the town are horn-mad after? There are a dozen dukes a night at Goodman's Fields sometimes; and yet I am stiff in opposition." Cumberland witnessing Garrick's acting as contrasted with that of Quin and others in the same piece, said,—"It seemed as if a whole century had been stepped over in the changing of a single scene: old things were done away with, and a new order at once brought forward, light and luminous, and clearly destined to dispel the barbarisms and bigotry of a tasteless age, too long attached to the prejudices of custom, and superstitiously devoted to the illusions of imposing declamation." Goodman's Theatre was this year open on Christmas Day, when Garrick played *Celdio* in the "Fop's Fortune."

Through playing in an unlicensed house, it was soon remembered that Garrick and his fellows were in the eye of the law rogues and vagabonds. The two West End managers determined that the law against him should be promptly enforced. They were energetically aided by one of the most respectable chief magistrates in London, who, says Davies, "had reasons of a private nature to incense him against the comedians of Goodman's Fields." With his aid they soon reduced Mr. Giffard, the Goodman's Fields manager, to terms, in consequence of which Garrick was given up his agreement, and allowed to join Mr. Fleetwood, of Drury-lane, as one of his Majesty's servants, for an annual income of 500*l.* Through Garrick's influence, probably, poor struggling Giffard and his wife were themselves soon after engaged for Drury-lane Theatre, leaving its rival in Goodman's Fields to fall into the hands of Astley, who tried it as an amphitheatre, and failed. Garrick, before joining the Drury-lane company, made his *début* as a dramatic author in "The Lying Valet" and "Lethe."

Pursuing our way to Hampton, we move first to Drury-lane Theatre, where Garrick made his first appearance in May, 1742, and played gratuitously (in reality) for the benefit of Harper's widow, his part being that of *Chamont*, in "The Orphan," Mrs. Pritchard playing *Monimia*. In June, 1742, he went with one of his warmest admirers, Peg Woffington, to play in Dublin, where he drew such crowded audiences that a distemper arose in Sheridan's ill-ventilated theatre which attacked the playgoers, and spreading, became known as "the Garrick fever"!

It was while he was at Drury-lane that Garrick received a visit from an elderly gentlewoman, who informed him that he had won the heart of a lady of great beauty and wealth, who had seen him play *Chamont* and *Lothario*, and was willing to bestow her hand upon him. Garrick was eager to see the lady, and an appointment was made, but before it was kept the beautiful young heiress had seen him play *Abel Drugger*, and all her love for him had gone as suddenly as it had come.

At Drury-lane Garrick revived Shakspeare's "Romeo and Juliet," after it had been banished from the stage about eighty years. And many old playgoers were afterwards indignant with the management for permitting this tragedy to be played every evening for a fortnight, which was then regarded as a "run" of extraordinary length, although it was soon after entirely thrown into the shade by a new pantomime,—"Queen Mab," — that actually ran forty nights!—in which Woodward, as harlequin, was immensely popular.

On the 22nd of June,* 1749, Garrick was married. The lady of his choice was Miss Eva Maria Veigel, or Violetti, and the ceremony of their union was performed by Mr. Franklin, at his chapel, near Russell-street, Bloomsbury, and the ceremony was repeated on the following day by Mr. Blyth, at a Roman Catholic church.

But concerning this lady, we have another story to tell. She was born at Vienna on the 29th of February, 1724, and Charles Lewis, the harlequin, in his "Memoirs," openly asserted

* Davies says the marriage took place in July, but Boaden in his copy appends a note correcting the date, and adding the other particulars made use of above.

that she was the natural daughter of Richard Boyle, the fourth earl of Cork and third of Burlington. Dr. Carlyle, who used to be called Jupiter Carlyle, because Hamilton had made him his model for the king of gods and men, relates in his "Biography" how in the year 1746 he went with a pair of friends on board the packet which used to run between Helvoet, in Holland, and Harwich, and how amongst other passengers was a bashful and shy young Hanoverian baron, with a slim graceful figure, and a beautiful effeminate face, who had a berth to himself, and was said to be on his way to the Court of St. James's. Fair weather and a brisk gale carried them merrily on their way, until, the breeze freshening, the baron in an agony of fear began to utter little shrieks, and implore the doctor to tell him if there was any danger. Then Jupiter Carlyle knew that the bold baron was a woman, and a very charming woman, in disguise. He saw her not long afterwards dancing at the King's theatre, in the presence of the king, George II., and an unusually large and brilliant audience. The only explanation is one which is said to have been supplied years aftewards by the lady herself, who stated that the Emperor Frederick I. had paid her such marked attention that for her protection the Empress Maria Theresa had advised her to secretly take flight to England, for which purpose she supplied her with money and letters of introduction to various royal and noble personages. Hence, we conjecture, the disguise and the voyage Dr. Carlyle spoke of, the fact that George II. commanded the play on the occasion of her first appearance, and the fact that all the fashionable world conspired to pet and make much of her directly after her arrival in England. Walpole, writing to a friend in June, 1746, said, "The fame of the Violette increases daily. The sister Countesses of Burlington and Talbot exert all their store of sullen partiality and competition for her. The former visits her, and is having her picture, and carries her to Chiswick, and she sups at Lady Carlisle's." Lord Burlington, her reputed father, had his Italian villa at Chiswick, and she was introduced by him to Frederick Prince of Wales, at Leicester House, in what is now called Leicester-square. She sat with the Countess of Burlington at the trial of Lord Lovat for treason, in April, 1747, and it was noticed with what almost maternal tenderness the Countess regarded her. Walpole, describing to a friend a grand party given at Richmond in 1749, says:—"Lady Burlington brought Violette, and the Richmonds had asked Garrick, who stood ogling and sighing the whole time, while my lady kept a fierce look out," which was not, however, sharp enough to baffle the actor-lover, who on one occasion obtained a brief interview with his lady-love by dressing in a woman's clothes.

And now that we have got both halves of Garrick together, the inferior moiety having secured the good and beautiful better half's dower of 6,000*l.*, given to her by her munificent patron, the Earl of Burlington, we will leave the stage altogether and travel with them to Hampton under the guidance of Henry Angelo, the famous fencing-master, who says of Garrick:—"I knew him well; he was intimately acquainted with my father, and his wife was the friend of my mother,—the affection was mutual,—and I owe a thousand grateful recollections to acts of kindness bestowed upon me by Mr. and Mrs. Garrick, whilst sojourning under their roof at their town house [in the Adelphi] and their villa at Hampton, where I have passed many a delightful day, with my old schoolfellows, Carrington and Nathan Garrick" (his son died not many months ago) "during our school vacation. These were the nephews of his brother George. We were together at Eton, boarded with the same dame, and, both being very little boys, Carrington and myself were bedfellows. My father bequeathed to me a silver cup given him by Garrick, which was made by his order and inscribed '*Pegno d'amicizia di* David Garrick *al suo amicio Angelo Malevolti.*' It held on the first day of its presentation three bottles of the donor's Burgundy, and was used on festive occasions. Garrick, who had pledged my father and mother, myself and sisters, and pressed it to his lips, has been remembered by the friendly token with the accompaniment of many a tear. My father was at his funeral, and my mother was with his widow at the period of the awful ceremony, and I still wear his wedding-ring. I remember being at Hampton many years before he left the stage, and after supper, to amuse us boys, his reading Chaucer's 'Cock and the Fox.' He recited, too, the poem 'of the 'Hermit' by his friend Goldsmith, and fell asleep in his chair. Mrs. Garrick held up her finger to admonish us to silence; and, taking off her lace apron, fondly placed it over his face, when we received our candles and went to bed."

And here Coleman joins in our chat with his personal knowledge of Garrick at Hampton, saying, "The frequent letters passing between Garrick and my father at Richmond were so many opportunities for me to take airings on horseback, attended by the servant who carried the despatches. On these occasions I always on arriving ran about his gardens, where he taught me the game of trap-ball, which superseded our former nine-pins. He practised, too, a thousand monkey tricks upon me; he was punch, harlequin, a cat in a gutter,—then King Lear, with a mad touch, at times, that always terrified me; and he had a peculiar mode of flashing the lightning of his eye, by darting it into the astonished mind of a child (as a serpent is said to fascinate a bird), which was an attribute belonging only to this theatrical Jupiter."

The above reminds us that Macaulay describes Garrick as loving the society of children, partly from good nature and partly from vanity, and says, "The ecstacies of mirth and terror which his gestures and play of countenance never failed to produce in a nursery flattered him quite as much as the applause of mature critics. He often exhibited all his powers of mimicry for the amusement of the little Burneys, awed them by shuddering and crouching as if he saw a ghost, scared them by raving like a maniac at St. Luke's, and then at once became an auctioneer, a chimney-sweeper, or an old woman, and made them laugh till the tears ran down their cheeks."

But other than children found delight in Garrick's very pleasant summer villa by the Thames. Mrs. Garrick was a famous hostess; and Garrick, although not ostentatiously hospitable, was an excellent host. Burney, Boswell, Dr. Johnson, Hogarth, Gainsborough, Goldsmith, Burke, Angelo, Foote, Sterne, Lord Camden, Lord and Lady Spencer, Hannah Moore, Mrs. Montague, J. Cradock, Tom Davis, Rousseau, and many another celebrity, wandered about the gardens by the river, or were entertained in the house which he built, and which still stands, with the "temple" dedicated to Shakspeare, shown in our sketch, containing a cast from the original statue of the great dramatic bard, executed for it by Roubiliac. Cradock, in his "Miscellaneous Memoirs," says, "The gardens were well kept, and his table, when he had company, most liberally supplied. There was also an elegant coach and four." He brought up, chiefly at his own expense, all his brother George's numerous family.

Dr. Carlyle, to whom we have already referred, describes a dinner given by Garrick, at Hampton, to himself, John Home, the author of "Douglas," and others. The visitors were all Scotsmen, and at Garrick's particular request they brought with them golf clubs and balls, to play a game on Molesey Hurst, a place then famous for races and prize-fights, and other popular sports. They set out for Hampton in an open carriage, and passing through Kensington, there saw some of the Coldstream Guards, who, being Scotsmen, as most of the regiment then were, recognised the golf-clubs, and gave their countrymen three hearty cheers, whereupon the visitors pulled up, to disburse some coins, wherewith the soldiers might drink to the welfare of dear old Scotia. Garrick came out to meet them, being specially desirous to do honour to Home, whose play he had previously rejected. He took him along the garden-terraces, down into the lower garden, and so into the "Temple of Shakspeare," where they all drank wine to the great bard's memory, and Home was laughingly reminded of the pathetic verses he had addressed to that same statue on the occasion of the aforesaid rejection. Through the gardens a public road ran, and this was a source of annoyance which he expressed to Dr. Johnson one day previously to this visit, when they were walking together by the river side.

"I did at one time think of throwing a bridge over it," said Garrick, "but there was an objection to that process which I could not well overcome."

"Davy, Davy," said the ponderous doctor, "what cannot be overcome may be underdone," and Garrick taking the hint, cut a tunnel under the road, thus re-uniting the two portions of his extensive and beautiful grounds. Through this tunnel Jupiter Carlyle, making a wonderful stroke with his golf-club, sent the ball spinning over the terraces into the Thames. Garrick begs the club that it may be preserved as a memorial of the feat and the visit.

At dinner Carlyle notes that Mrs. Garrick—there was no other lady present—had grown fat; and says in his book "she did not seem at all to recognise me, which was no wonder at the end of twelve years, I having thrown away my bag-wig and sword, and appearing in my own grisly hairs and parson's clothes"; and adds that he was not likely to remind her of the very singular circumstances of their former meeting, when she was the slim young Hanoverian baron who was terrified by the waves and wind of a fresh bright day at sea. "We passed," he says, "a very agreeable afternoon, and it is hard to say which were happier, the landlord and landlady, or the guests."

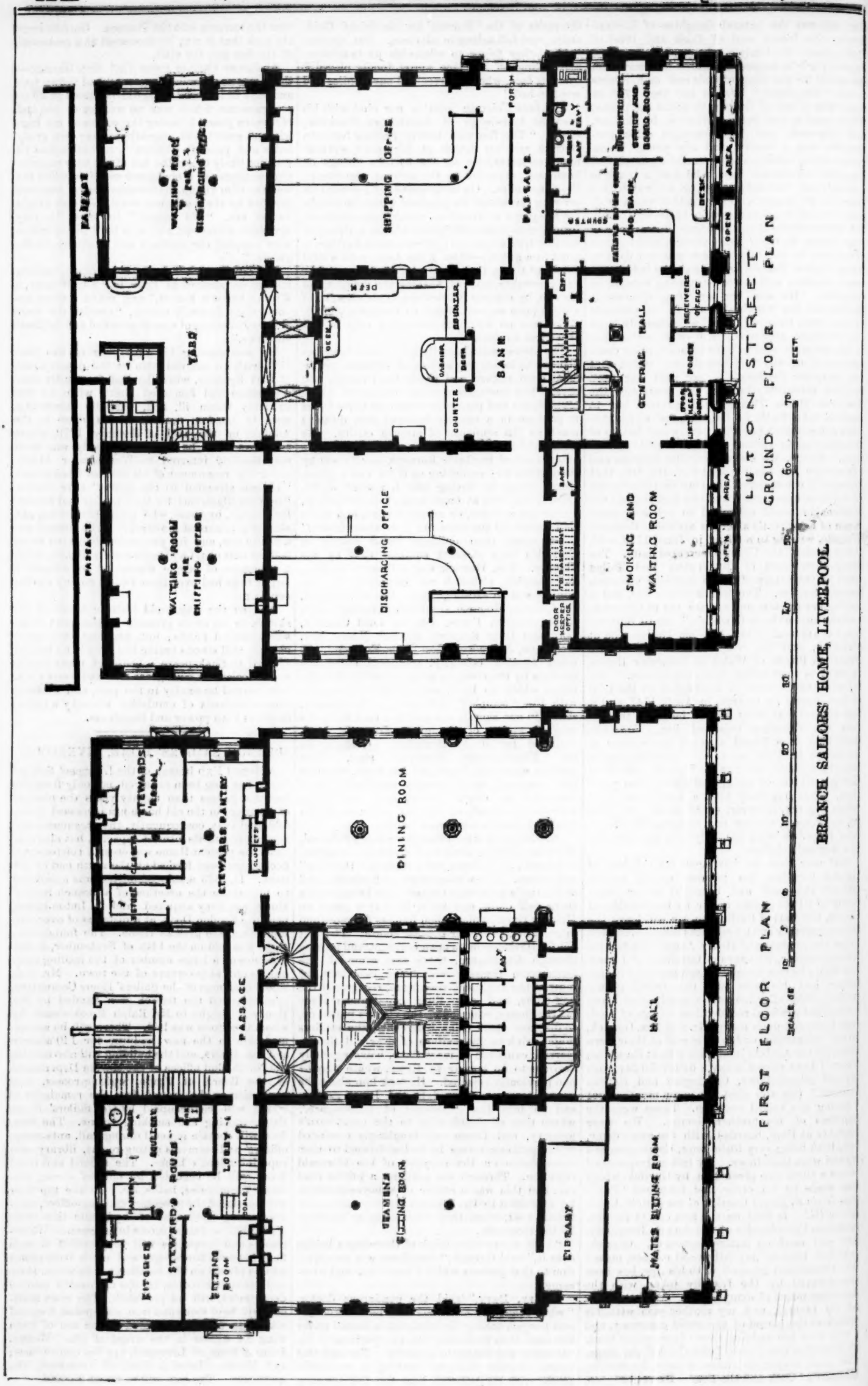
In 1776 Garrick bade the stage adieu, making his last appearance as *Felix*, in "The Wonder, a Woman keeps a Secret," and made a short unpretending farewell speech, "amidst the tears and acclamations of a most crowded and brilliant audience."

He was passing his Christmas of the year 1778 with his beloved wife at the country-seat of Earl Spencer, where he had frequently been a welcome and honoured guest, when he was suddenly taken ill, and, partially recovering, went to London, arriving at his house in the Adelphi on the 15th of January, 1779, where two days after he died. His body was most magnificently interred in Westminster Abbey, under the monument of his beloved Shakspeare. "He was attended to the grave," says Davies, "by men illustrious for their genius and famous for science, by those who loved him living, and sincerely lamented his death." The funeral was a public one, and its procession displayed every feature that could add to its stately dignity, while a concourse of people assembled to witness it larger than had ever been known on any similar occasion.

And so the quiet, old historic house of our sketch, in its quiet grounds by the quiet river-side, changed hands; but, knowing little other change, still stands beside the temple its builder erected to Shakspeare, a house of many stories and associations with great men and women who have served humanity in the past, and elevated those standards of emulation whereby a nation acquires both power and happiness.

BRANCH SAILORS' HOME, LIVERPOOL.

A NORTH END branch of the Liverpool Sailors' Home has long been required, not only from the fact that in less than twenty years the number of boarders in the old home has increased threefold, and that, consequently, the accommodation is stretched to its utmost capacity, but also that since the present Home was erected thirteen new docks have been formed at the north end of the town. In 1875 a sub-committee was appointed to undertake the erection of a branch Sailors' Home, and they acquired land in Luton-street, near the Sandon Dock, at a distance of over two miles from the present Home. The foundation-stone was laid on the 13th of September, in the presence of a large number of the leading merchants and ship-owners of the town. Mr. J. A. Time, chairman of the Sailors' Home Committee, presided, and the trowel was handed by Mr. Henry A. Bright to Mr. Ralph Brocklebank, by whom the stone was laid. There will be accommodation in the new building for 140 seamen and ten officers, and the building will also contain the North End offices of the Marine Department of the Board of Trade, waiting-rooms, and bank, also on the ground-floor, the remainder of which will be occupied by the Sailors' Home Bank, waiting and smoking rooms. The first-floor will contain general dining-hall, ante-room, officers' and seamen's sitting-rooms, library, and superintendent's house. The second and third floors will be occupied by officers' rooms, seamen's dormitories, baths, &c. On the top floor will be placed the necessary cooking-offices, communicating by means of hydraulic lifts with dining-hall and store-rooms in basements. Water-closets and lavatories will be provided in each floor between the wings, and extra bath-rooms will be placed on the basement, where also store and document rooms, for the mercantile marine department, will be provided. The main staircase will be of stone and iron, and special fireproof staircases will be provided at the end of each wing for egress in the event of fire. Messrs. Jones & Sons, of Liverpool, are the contractors; and Messrs. Houet & Wise, of Liverpool, the architects. The cost will be about 25,000*l.*


LUTON STREET
GROUND FLOOR PLAN
PASSAGE
WAITING ROOM FOR SHIPPING OFFICE
SHIPPING OFFICE
PORCH
PASSAGE
YARD
DESK
DESK
CASHIER
COUNTER
BANK
DISCHARGING OFFICE
WAITING ROOM FOR SHIPPING OFFICE
PASSAGE
DOOR TO DISCHARGING OFFICE
BANK
SMOKING AND WAITING ROOM
GENERAL HALL
SUPERINTENDENT'S OFFICE AND BOARD ROOM
LAV
SAFE
SAFE
BANK
DESK
AREA
OPEN
RECEIVERS OFFICE
DESK
DESK
AREA
OPEN
0 5 10 20 30 40 50 60 70 FEET
FIRST FLOOR PLAN
STEWARDS ROOM
STEWARDS PANTRY
DINING ROOM
PASSAGE
LAV
HALL
KITCHEN
SCULLERY
STEWARD'S ROOM
LOBBY
SEAMENS SITTING ROOM
LIBRARY
MATES SITTING ROOM
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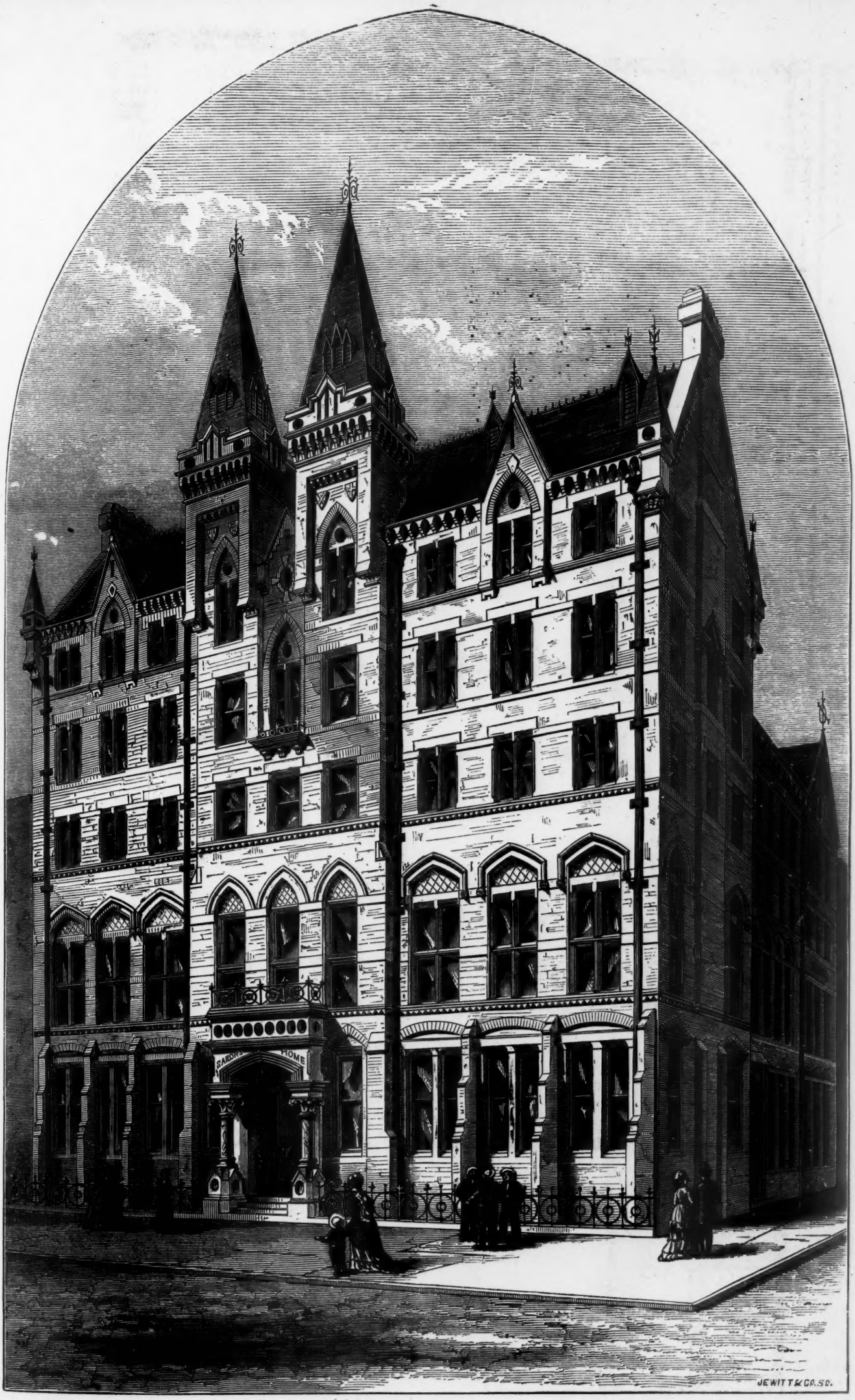
BRANCH SAILORS' HOME, LIVERPOOL.



BRANCH SAILORS' HOME, LIVERPOOL.—MESSRS. HOUET & WISE, ARCHITECTS.

PROGRESS OF THE PARIS EXHIBITION BUILDING.

IT was a happy idea that of Clement VI., when the Papal Treasury was short of funds, to institute the festival of the Jubilee, and Gibbon tells us that so great was the concourse of pilgrims to the shrine of St. Peter, that two priests stood there day and night, raking in, without counting it, the money deposited on the altar by the faithful, for the remission of their sins. It will be much the same, beyond a doubt, with the Paris Exhibition in 1878, for the Republican Government is now preparing such a show for the world to come to that long before the opening time the inhabitants of all the quarters of the civilised globe will have determined to depose their obol on the shrine of pleasure.

Night and day the work progresses; 2,000 workmen and more may now be seen dotted over the Champ de Mars and the Trocadero, and a weird scene at night it is, as by the aid of the rising moon and the bright rays of the electric lamp the army of navvies may be seen, here digging and laying the foundations of the future palace, there heightening the levels, while through it all thread innumerable workmen busy at their labour.

By the end of February next, all the constructions of the Trocadero must be on the same level. Already, one wing is being completed, some 235 mètres in length, but the foundations of the central pavilion to be called the *Palais des Fêtes* are now being actively proceeded with.

Assuredly the Palace of the Trocadero will be the crowning success of the show of 1878; for, with whatever reason complaints may be made that exhibitions are a bore, from their being so like each other, no one will say so of that of Paris. Here on this beautiful hill, overlooking all the capital and its environs, will be established such a *belvédere* as the world has never seen, and in it will be shown such treasures as few nations can boast of possessing. For here will be established the *Histoire de Travail*, under the direction of M. Longperier, which formed so interesting a feature in 1867. Here also will be a large rotunda, where musical performances will constantly take place, which, with the open galleries looking on to the city, the Champ de Mars, the Bois de Boulogne, and the environs of Paris will form by no means one of the least interesting features of the Exhibition.

On the Champ de Mars the greatest activity reigns, and where so recently extended a dry and level area of sand, may now be seen hundreds of workmen busily employed in digging the foundations of the future palace, and laying the pipes for the gas and water supply which will be necessary. Some few days ago the works were stopped for the moment by the heavy rains, but as in nine months nearly all the constructions have to be finished, to facilitate the progress of the work, the tenders are parcelled out among a number of contractors. It is not long since that four lots of metallic constructions, involving an expense of no less than thirteen millions of francs, were commanded. When we consider that the total sum to be expended on the whole Exhibition is thirty-five millions, we see how large a part iron is going to play.

It is now quite clear that Germany's reluctance to exhibit, or, we should say, the Government's, to take any part in the Exhibition, is quite determined; but to make up for the German Emperor's refusal, courteous Austria has, it is said, promised to contribute some of her great treasures from her National museums, the Emperor having expressed his opinion that the world is more likely to be advantaged by the exhibition of noble works of art than by any attempt at nations emulating each other in the display of military projectiles.

There is a prospect of that great and ancient industry, the ceramic art, being more than usually well represented at this Exhibition. America, which is making rapid strides in this branch, is now industriously at work for 1878. According to a practical authority, Mr. Campbell M.P. (of the firm of Minton & Co.), who has lately returned from the United States, the Americans have already succeeded in producing faïence in every way equal to the European, except in the artistic quality of decoration. With all due deference, we should doubt the absolute perfection of their "potting," but in the very serious deficiency of artistic decoration, our manufacturers at home need not fear our cousins' competition just yet. In fact, as long as artistic superiority—always taking *artistic* in its widest sense—exists, no country need fear, we suspect, the competition of any other. Even those distant countries that for ages have been famous for the perfection of the artistic character of their work, who may at this moment be advantaged by the enormous European demand for their products, will find that want of interest in the beauty of their own work will be their ultimate ruin.

But if this Exhibition is to consist of enormous shows of various sorts of china, of endless counters of ormolu and bronze, of gorgeous silk hangings and quaint and luxurious pieces of furniture, of Gobelins' tapestry and questionable reproductions of antique art, of acres and miles of pictures, of newly-contrived musical instruments and specimens of pianos and miserably metallic harmonicons, from all parts of the world,—of heaps and heaps of finery, such as we, goodness knows, are already tired of,—such an exhibition is scarcely to be desired.

We may be certain, however, that the projectors of this Exhibition are perfectly alive to the popular objections, and we shall find that the croakers, who are not by any means few or unimportant, will be the first to admit that the Exhibition of 1878 will not bore them.

Who is ever tired of walking through the Pompeiian court at the Crystal Palace? If the promise is fulfilled here, we shall land in a gondola at the steps of a Venetian palace, we shall visit a quaint house such as Albert Dürer occupied at Nuremburg, or John of Barneveldt in the Netherlands,—a Spanish house, a Chinese, a Japanese, a Brazilian, a Russian, a Danish; in fact, if the directors be faithful, we shall see something of the most distant parts of the world, and, let other countries be ever so careful to select the beauties that they possess, France is determined to bring together at this Exhibition its most cherished treasures; here we shall have all the epochs,—the Roman, the Gothic, the Renaissance, the alternations of brick and stone of Louis XIII.'s reign, the grand lines of Louis XIV.'s, the still grander but mannered lines of Louis XV.'s, the exquisite delicacies of Louis XVI.'s Here, also, the forms peculiar to the provinces, where the art of building has always been honoured, will be found,—portions of Chambord, or of Chenonceaux, or the Palais de Justice at Rouen, or the house of Jacques Cœur at Bourges, or the splendid Palais Granvelle, the pride of Besançon.

Paris.

ARCHITECTURAL NOTES, BY AN IGNORAMUS.

I.—ON THE ROMANESQUE.

IT is now a truth universally recognised by every one with any pretensions to judge, that that style of architecture which was formerly called by our writers sometimes Norman and sometimes Saxon is simply a form of the ancient Roman Classic architecture carried on through the early Middle Ages. It differs in no essential respect from that of the baths and basilicas, the ruins of which still cumber the soil of the eternal city. The plainest and most unadorned manner of the style may be seen in the vast church of St. Stephen at Caen, built by William the Conqueror to commemorate his subjugation of the Anglo-Saxons, and dedicated in the year 1078. The wide surfaces of naked wall, unrelieved by either carving or painting, make the effect of the interior painfully heavy and monotonous. It has been remarked, with perfect truth, that its three tiers of round arches, one rising above another, with the size diminishing in well-proportioned gradation, irresistibly remind us of the Coliseum or Amphitheatre of Titus, from which we can hardly doubt that Lanfranc, who was the architect of the church, took the idea of his plan. In England the best examples of the round-arched style are Durham, Romsey, and Wimborne, all of which far excel the French specimens in the elegance of their mouldings, and are distinguished by a simple and effective mode of ornament, in harmony with the character of the style. Chichester, Southwell, and Waltham are amongst the most important churches of the same kind; but these are all plain, and with hardly an attempt at decoration, the two last examples having rather a stumpy effect in the interior, from the lowness of the first tier. The style kept its ground here far later than on the Continent. St. Stephen's Abbey Church is called by Michelet the last example of the Romanesque, and so it probably is, in France. Durham was founded in 1092, when the North of England was just beginning to recover from the dreadful ravages and desolations of the Conquest. Its foundation was attended by Malcolm Canmore, king of Scotland, and its style was imitated, not unsuccessfully, in Dunfermline Abbey, which was consecrated in the third quarter of the next century. Waltham Abbey, having been destroyed by fire, was restored about the year 1250, as we learn from Matthew Paris. This is the fabric we now see, though the walls may possibly contain remnants of the earlier structure reared by Harold, the last Anglo-Saxon king.

Of that form of the Romanesque which is distinguished by the elongated round arch, we possess no example in England, though it is found in several Continental countries. The most magnificent examples are the Pisan basilic in Tuscany, and the still larger and more imposing cathedral of Spires, or Speier, in the Palatinate. In the former we have the three structural members of the main tier (supported by round columns), triforium, and clearstory. Spires is particularly curious as following the plan of suppressing the triforium, to which some of the later Mediæval architects reverted, as seen in the Cathedral of Milan. The height of its lower tier is 60 ft., the same as that of Amiens, and the effect of the arcade, narrow, elongated, and perfectly round-headed, surmounted by the lofty windows of the clearstory, rivals in beauty that of the latest Pointed style. This church is passed over with slight notice, or none at all, by our architectural writers, but it merits far more than it has received, being one of the grandest and most interesting in Europe. The vestibule or *narthex* is designed with a boldness and imposing magnificence that far eclipse the porch of St. Peter's. Both Spires and Pisa date from the middle of the eleventh century, and upon either of them a volume might be written. Another variety of the elongated round arch is found in two highly curious and beautiful churches of Clermont, in Auvergne, which are said to date from the eighth or ninth century. In these the arcade rests on a row of round pillars, with capitals richly worked in vegetable and animal figures. The arch is high and narrow, with only a slight and plain moulding; the intervening surfaces flat, surmounted by a clearstory of moderate height. The effect is *sui generis*, and, whether the date assigned be reliable or not, it is certain that nothing similar is to be found in more recent styles. Perhaps, however, the truth is that the pattern was taken from the Saracenic mosques of Egypt and the East, and that the church was erected by crusaders in commemoration of their exploits in Palestine. Clermont, it must be recollected, was the place where the first crusade was preached by Pope Urban II., and where the French princes and nobles assumed the cross, in token of their vows to recover the holy sepulchre from the hands of the infidels.

THE COTTAGE HOMES OF ENGLAND FROM A SOCIAL POINT OF VIEW.

IN journeying through some of our picturesque country scenes, in which the balmy air insensibly braces one's nerves and gladdens one's heart, and in which the alternating hills and vales, clad with verdure, and rejoicing in a stillness and quiet broken only by the sounds of industry, the lowing of oxen, and the warbling of birds, what a feeling of sadness takes possession of one when in a shaded corner or on some heath he discovers what could only by the greatest stretch of imagination and the utmost amount of courtesy be termed a home. Yet there it stands: a blot upon an otherwise unsullied page: a blemish on Nature's lovely face: a record of the meanness of man in contra-distinction to the lavish liberality of the Most High conspicuous in all the surroundings. Above,—the summer sky glorious with the splendour of the "greater light," and swept by fleecy clouds of ever-varying outlines, now blending into one, now separating and sailing on in majesty and grace; around,—the lofty hills with their inspiration to ardent minds to soar high. Their bases are on the solid ground, but their peaks are near the sky.

In such a panorama as this, does one not well to look for dwellings that will harmonise with the scene, as if to show that the Creator's design has been understood and appreciated by those to whom He has given the fairest of earth's treasures in addition to the responsibilities of wealth?

Notwithstanding the brightness of the example, this is the result:—A three (or four) roomed cottage, smoky and ill-favoured, with close, stuffy rooms, no means of ventilation having been provided; windows patched up with rags; roof unsound; covering defective; walls falling outwards; and, as regards comfort and general appearance, as inconvenient and as unsightly as can be imagined.

What a protest against our narrowmindedness, our selfishness, and calculating dispositions! What wonder if in these dwellings (if such they can be called), with no provision for ensuring cleanliness or morality, and with no means of securing either convenience or comfort, the tastes and dispositions of the inmates be found to compare unfavourably with those of their fellows who are better housed and more cared for?

People read with astonishment some thrilling account of immorality in the lower classes, and attribute it to innate depravity; but before proceeding to such a length it would be well to examine the causes that are likely to lead to depravity, and if this were done it would often be found to arise, not from inherent badness, but from the fact of their being familiarised in childhood with scenes unfit for youthful eyes, and to sounds unfit for youthful ears.

This is particularly the case where there are large families, and is owing to the vicious system formerly adopted in many parts of the country, and prevalent even now, of giving to a cottage only two bedrooms at the most. A great amount of overcrowding necessarily takes place, and the relationship between the sexes becomes very vague, and is almost entirely lost sight of.

Neither should it be overlooked that, in outlying districts, many cottages are distant from any other dwelling to the extent of quite a quarter of a mile, whilst some are even more distant. In this state of isolation persons unconsciously relapse into the manners of a semi-savage race, and should any one by chance pay them a visit he is looked upon both by parents and children as a visitor from another world.

Still, rough and uncouth as many of them are, it is very seldom one meets with a churl, and their failings would soon be corrected if it were possible to bring a civilising influence to bear upon them. As it is, they labour under many difficulties in addition to the degrading influence of their ill-constructed abodes. They have no wells from which to obtain water, and often have to walk some hundreds of yards before any can be procured, and when in summer's drought this source fails them they must trudge still further. They have no earth-closets, nor, indeed, any other sanitary provision, and their substitutes are of a very primitive type—much to be avoided. Shut out from intercourse with others, except on certain occasions, they are bound to lose that innate pride most people feel in clean and orderly homes. They lose that spirit of emulation which dwells within those who are assembled in villages or in blocks of cottages, and take no pleasure in endeavouring to make their homes, such as they are, as attractive as possible with the means at their command.

Again, in some parts of England such a regard has been exhibited for space in days gone by, that it is very much to be doubted if more compact planning could possibly have been devised. No space is lost in passages, one room is entered from another, a most reprehensible arrangement as regards the bedrooms; stairs are abandoned as a worthless idea, or, probably, as an expensive one, and a step ladder is substituted for them. Add to this description uneven floors, decayed joists, shrunken doors, rattling casements, and perpetual draughts, internally, and a battered and weather-beaten exterior, and it may rightly be asked if this is a place to live in?

As long as these remain, so long will the tastes and feelings of the inmates remain at a low ebb, so long will their intellects be stunted, and their morality be impaired. These dwellings being the heritage left us by those who have gone before, and who built for the sake of profitable investments, without regard to the wants and necessities of their labourers, it becomes the bounden duty of land and property owners now to remedy this shocking state of affairs, and to provide for them far better accommodation than they have hitherto possessed, and that, not for the selfish consideration of obtaining a better labourer (although that may be a consideration with some), but for the nobler motives dictated by feelings of humanity and true philosophy.

A decent cosy cottage, with its proper adjuncts, will go a great way to secure a contented and well-disposed tenant. Home would have many charms, village agitators smaller audiences, and considerably less to dilate upon.

There are, fortunately, noble-minded landowners who are clearing away most of these tumble-down looking structures, and are substituting for them comfortable and ornamental cottages, at a reasonable rental; and now, in some districts, a winding path or a turn of the road may reveal some spot of exquisite beauty, and, striking in its picturesqueness, the cottage forms the centre-piece. Or by the side of some high road a block of modern cottages may be seen which conveys to one a pleasing impression; and it must certainly be allowed that in thus aiming at the improvement of the social position of their poorer tenantry these landowners are improving their own property likewise.

It must not, however, be imagined that it is an easy matter to transplant people from cottages of the old stamp to modern ones. Habits cling to all of us, and even in changing residences where both are equal in point of convenience, we feel strange for a time until we have adapted ourselves to the change. How much more difficult, then, to transplant into neat well-arranged cottages persons who have become so thoroughly habituated to the free and easy style of living, entailed by passing a lengthened period in a dwelling devoid of convenience, as to be utterly unconcerned about such trivialities as cleanliness and tidiness?

One thing is certain, it is quite useless to attempt to reform the aged. They have seen the day and rejoice in the sight; but it is not their day. Their time for improvement is past. They should be allowed to eke out their little span of life in the old building endeared to them by so many memories.

There is a chord in the human heart that is touched most sensibly by the memories and records of ancestors, whether great or simple, and it is displayed here to a surprising degree.

On large estates where these apologies-for-dwellings are cumbering the ground, it is a wise and humane proceeding to weed them out *gradually*, having, however, a due regard for the feelings of elderly inmates, and not expelling *them* peremptorily, nor suddenly transferring them to buildings to which they have been unaccustomed. On the death of these elderly cottagers such buildings should be pulled down, and modern cottages, replete with all possible comforts and requisite arrangements, should be substituted for the rising generation.

Thomas Bales.

OXFORD ARCHITECTURAL AND HISTORICAL SOCIETY.

The last "walk" of the Society for this term took place on the 2nd inst., when, owing to the extremely wet weather, a small number only assembled in the Hall of New College, the buildings of which foundation had been fixed upon for inspection. They were met by the Rev. A. E. Robinson, one of the Fellows, who, after welcoming them to the College, proceeded to explain the chief features in the history of the site and buildings. The site, he thought, with the exception of the important fragment of the old city wall still remaining, had no history much before the foundation of the College. Omitting the part on which the cloisters stood, the rest of the College occupied ten different plots of ground, which William of Wykeham bought between 1368 and 1379, some from Queen's College, some from Osney Abbey, some from the Priory of St. Frideswide, and some from the city of Oxford. The part of the site now occupied by the gardens, lower quadrangle, and cloisters, was added some few years afterwards, by procuring some ground on which some old halls stood. The vicar of St. Peter-in-the-East lost his ecclesiastical dues owing to the pulling down of these old halls, and he complained about it, and before the question could be settled it had to be referred to no less an authority than the Pope, and then it was passed on to the Council of Trent. There was a "bull" in the muniment tower which said that the vicar must not have his dues. History repeated itself in this as in other matters, but with a different result. During the erection of the new buildings lately, it was necessary to pull down some houses in Holywell, and the people came to the College and said they had lost the voluntary rate which the houses used to pay, and they wanted the College to pay the money. There was this difference, however, between the two periods: the College of the nineteenth century meekly submitted to the claim and paid the money, but the Pope, or the Council of the fifteenth century, said that the vicar of St. Peter's must go without his dues. The cloisters were built in 1400, and the only changes that had been made in the site all belonged to the present century. The Chapel and Hall were, as regards the fabric, almost exactly as they were when the College was first founded. They had never been refaced, although 500 years old, and the stone was good and durable. As regarded the Chapel, he supposed that at first it had some sort of open timber roof, but it was not certain of what design it was. The east end also had been decorated with a canopy, but this was destroyed by order of Bishop Horne in the sixteenth century. About 1636, when a great deal of work was done, the east end must have been absolutely different from anything there was now, for in some way or other it was made to be circular. The last change was in the last century, when a good deal was done in the way of restoration,—only, unfortunately, it was almost all plaster work from first to last. The canopies and the ceiling were principally plaster, and the niches in the east end were also plaster. The Chapel was the most interesting building of the whole College, because, he supposed, in design, at any rate, it might claim to be one of the finest specimens of William of Wykeham's genius as an architect.

ST. STEPHEN'S GREEN, DUBLIN.

The dispute that has existed for several months between the Corporation and the Commissioners of St. Stephen's Green has been amicably settled, and it is now hoped that this splendid area will soon be opened for the free enjoyment of the public. At a conference it was agreed by a committee of the Corporation and the Commissioners that the Bill promoted by the former for opening the Green, and the suit in Chancery to restrain proceedings in reference to the same, be respectively withdrawn, with a view of the Government introducing a Bill on the terms proposed by the city members, and that the city members be requested to take charge of the negotiations. The Commissioners are willing to surrender all their rights and privileges in the Green. They give up their right of compensation, estimated by some at 35,000*l*., and to withdraw all legal proceedings against the Corporation, and they ask the Corporation to withdraw their Bill for the compulsory opening of the Green, and to forego the rent of 280*l*. a year.

Sir Arthur Guinness renewed the offer he made several months since, of giving 5,000*l*. or upwards towards beautifying the Green, notwithstanding the ungenerous taunts flung at him by the very men who now acknowledge their personal wrongheadedness. It is taken for granted that the Government will now do what is requisite to carry the resolve into practical embodiment. It will involve an outlay of perhaps 1,200*l*. or upwards to maintain the Green as a royal park; and if the Government consents, it will no longer be necessary to tax the citizens 600*l*. a year. The Corporation propose to give gratuitously a supply of water for the intended fountains, and we suppose that in the case of a lake or lakes being made, they would also be prepared to do the same.

A PROPOSED RESERVOIR.

Instigated by previous mishaps, the Consett Water Company, Durham, are about constructing a not over extensive reservoir to contain about fourteen millions of gallons, and form a basin and banks of six acres. This is perhaps a fair weight for consideration, for the height of high water here is about 930 ft. above Ordnance level, with an average depth of reservoir water of 14 ft.

The engineer of the new works, Mr. George Lambton, of Newcastle, has now some laurels to win; and this is how he proposes to build his waterworks. The bottom or bed of the reservoir, and all slopes in cutting, will be covered with cement concrete, laid upon a sub-stratum of clay puddle, and have a uniform inclination from south to north. This is not only to render it water-tight, but enable it to be effectually cleansed whenever necessary. The inner slopes of all embankments will be pitched with rubble stone from top to bottom. The main pipe discharges into the reservoir by means of a simple valve,

placed at the reservoir end of that pipe, whilst a supply for the Company's customers will pass through very fine copper wire gauze, to prevent the passage of any foreign substance into the supply-pipe.

Due precautions are to be taken for emptying the reservoir, whenever it should be necessary to do so, by means of a 12-in. cast-iron sludge-pipe, placed at the lowest point and discharging itself into the natural drainage of the coating; and injury to the embankment, arising from too much being discharged into the reservoir, will be prevented by a properly-constructed overflow, or weir, built of cement concrete.

There are some houses in connexion with the reservoir in question, standing at a higher level than the water in the reservoir. These it is proposed to supply by means of an elevated tank or small reservoir, built of brickwork in cement, and arched over, and having a complete system of inflow, overflow, outflow, and sludge or cleansing pipes. The tank will contain several days' water supply, and can be refilled in a very short time by simply working a single valve. It can also be thoroughly cleansed when required, and at all times the water will be completely ventilated and kept free from impurities.

To prevent persons bathing, or otherwise polluting the water, a cottage, above the level of the embankments forming the reservoir, is so placed that the occupier, entering or departing from it, will have an entire view of the water-works.

The works will be enclosed by a stone wall, 7ft. high, having piers 12 ft. apart, and finished with a stone coping. The outer slopes will be covered with soil, thickly sown with grass-seeds, and afterwards planted with shrubs of a binding nature.

The tender for the above works is said to be below the cost of others completed. The contractor, Mr. G. Hunter, is bound to complete the works by November, 1877.

In reservoir-work what is proposed goes but a short way towards success. A "little rift" makes other things than a lute quite valueless.

OUR CANAL POPULATION.

THE Commissioners appointed to inquire into the operation of the Factory and Workshops Act have reported that "nothing short of a prohibition of the residence of children of school age in canal-boats will be sufficient to secure schooling for the offspring of the parents who at present reside permanently or a great part of the year in barges," and recommend that the residence in canal-boats of female young persons, and of children above the age of three years, should be forbidden. The Council of the Social Science Association say, "These recommendations, it is believed, are owing entirely to the efforts of Mr. George Smith; and his friends, therefore, feel that such work deserves special aid, and propose to raise a fund, to be placed at his disposal, for the purpose of enabling him to press forward the task he has undertaken."

Quite right that this should be done. We shall be excused, perhaps, for saying that, if one of our early volumes be looked to, or the little books by Mr. Godwin, in which statements in our pages were gathered up, sketches will be found made by us on board canal-boats, with descriptive particulars, showing the evil condition of the occupants of such craft, at a time when few knew we had a canal population.

AMBLE.

SINCE our notice of this rising little port on the north-eastern coast, not only have the directors of the North-Eastern Railway yielded to the request of the inhabitants and conceded them a branch for passengers, but the station for it is already in course of erection. The foundations of a large hotel are also now laid. The namers of the rapidly-forming streets having loyally called the first Queen-street, and decorously termed the next Church-street and Cross-street, have now turned their attention to the poets, and have named the last one Byron-street. The system of sewerage which we mentioned as about to be undertaken by the Rural Sanitary Authority has also, since our notice, been rapidly carried on, and is now nearly completed. Quicksands, wagon-ways, and many intricacies of levels, have presented difficulties in turns, and been successively surmounted. The cost of these works will be about 2,000*l*. They are to be succeeded by the formation of the necessary pumping-station and other works to carry water from Amble to the village at the coal-pit close by, called Radcliffe Colliery, whose residents in dry seasons have suffered serious inconvenience from the absence of a due supply. A cemetery is also proposed. At the present time burials are made at Warkworth. The road between Amble and Warkworth lies along the edge of the river Coquet, and at high tides is overflowed in some places, and a cemetery will, therefore be another improvement.

"THE DICTIONARY OF ARCHITECTURE."

WE are glad to hear that the printing of letter O is now far advanced, and that the committee will, early in 1877, be able to issue a new part of "The Dictionary of Architecture," comprising in about 250 pages the letters M, N, O (equal to nearly 1,000 pp. 8vo.).

Considering the limited number of the earlier parts of the Dictionary which remain available for new subscribers, the general meeting of subscribers held in May, 1874, passed the following resolution, viz.—"That from this time the price of 'The Dictionary of Architecture,' including all which may hereafter be published by means of the present available funds, shall be 20 guineas—21*l*."; and those who have joined the Society since May, 1874, have paid that amount of contribution.

The carrying on of the Dictionary to its completion without any considerable further demand being made on the subscribers depends on the remaining stock being successfully disposed of; it is, therefore, to the interests of each, individually, to assist in bringing in new subscribers. Some of our readers who are not subscribers may feel disposed to send their names.

STRENGTH OF STAFFORDSHIRE VITRIFIED BLUE BRICKS.

SOME experiments have been made at Mr. Kirkaldy's to ascertain the resistance to a gradually-increased thrusting stress of six bricks, received from Mr. Joseph Hamblet, of the Piercy Blue Brick Works, West Bromwich, and the following are the results:—

Dimensions. Inches.	Base area. Square in.	Stress in Pounds, when Cracked Slightly.	Cracked Generally.	Crushed Steelyard drop.
2·55, 9·03 by 4·30	38·82	187·500	341·600	449·680
" " "	"	164·300	306·000	404·270
" " "	"	153·000	291·000	396·160
" " "	"	148·200	285·400	387·820
" " "	"	124·600	244·100	332·750
" " "	"	115·800	216·200	336·340
Mean	39·06	148·900	280·717	397·837
Pounds per square inch		3·812	7·186	10·115
Tons per square foot		245·1	462·1	654·9

These bricks were bedded between pieces of pine ¼ in. thick.

CANTERBURY.

AT a meeting of the British Archæological Association, held on the 13th inst., the Rev. S. M. Mayhew in the chair, after the exhibition of a large number of interesting antiquities, Mr. John Brent, F.S.A., read an elaborate and exhaustive paper on "Ancient Canterbury." He remarked upon the small amount of work of Roman date now above ground, the Roman level being about 8 ft. below that of the modern city. He adduced carefully collected evidence in proof of the small extent of the original Roman settlement, and challenged the statements recently made as to the existence of a large lake on the west side of the city, and showed, from recent discoveries, that this never existed. The lecturer exhibited a large collection of Roman ornaments, mostly of bronze, some being enamelled and inlaid; and also many examples of prehistoric flint implements.

The South African Exhibition.—Messrs. Newall & Co., of the Strand, are to supply their copper rope lightning-conductors to the South African International Exhibition buildings, which are to be opened at Cape Town on the 15th of March in next year.

SANITARY WORK AND THE PULPIT.

THE Health Officer of Islington, Dr. Tidy, in his last report, says truly,—"As yet the public generally have not roused themselves to the importance of true sanitary work. It is this apathy we have to contend with, and which is the true barrier to the carrying out of more efficient sanitary measures. That apathy is too often ignorance. I will make but one suggestion to meet the difficulty. If at every church and chapel (for here we ought to find the true spirit of work and progress) Sanitary Organisation Societies (not Charity Organisation Societies), were started, what an immense work they might effect! Ignorance is the parent of filth, and filth is the parent of disease; knowledge is the parent of cleanliness, and of the love of the beautiful, and these bring forth health. We may be certain of this, that in sanitary measures, even so simple a thing as cleanliness requires to be learnt just as much as the Latin grammar; and similarly too, its use is not always appreciated at the time it is being learnt. Where else can we look for it to be taught but to recognised teachers?"

LANDLORD AND TENANT.

A CASE, just decided by Mr. Justice Lindley, at Manchester, is of some public interest as defining the position of tenants holding non-repairing leases. The landlord, in this instance, had covenanted to keep the roof, windows, main timbers, and exterior of the house in an effectual state of repair. After a time, water frequently penetrated through the roof to such an extent that the tenant was obliged to remove his wife to the kitchen, while many of his goods were completely spoilt. On this being represented to the landlord's agent, he empowered the tenant to get some one to execute the repairs, previously forwarding an estimate of their cost. The tenant failed to find any person who could give such an estimate, and therefore had the repairs executed at once. When the rent-day arrived, he deducted the amount he had so spent, and tendered the balance. This was refused by the agent, who thereupon put in an execution, and sold off all the property on the premises under distraint. These proceedings resulted in an action before Justice Lindley, which terminated in favour of the tenant. The jury held that, while the landlord had a right to his rent, 30*l*., he must pay to the tenant 7*l*. 2*s*. 6*d*. for repairs, 5*l*. for damage done by rainwater, and 35*l*. for illegal distraint, less 5*l*. 15*s*. 4*d*., the amount realised by the sale. The important point in this decision is that it sanctions the execution of repairs by non-repairing tenants, at the cost of their landlords, when the latter either fail to perform the duty, or are guilty of unjustifiable delay.

IMPORTANT TO HIGHWAY SURVEYORS.

DENNY *v.* THWAITES.

IN the Court of Appeal, on the 23rd ult., Baron Cleasby gave judgment in this case, in which the appellant, a surveyor of highways, had been convicted and fined by justices of Essex, under the 52nd section of the Act 24 and 25 Vict., cap. 97,—"The Malicious Injury to Property Act."

It appeared that the respondent's house was approached from the high road by an access which crossed a drain which ran by the side of the road. One of the appellant's predecessors had carried the drain through the access by means of a pipe. The respondent took up this pipe, and put down a larger one, and increased the size of the access, thereby bringing it within 15 ft. of the centre of the road. This caused an obstruction, and the appellant, with some men, removed the access and took up the pipe. The Justices found as a fact that the appellant had not acted under a fair and *bonâ-fide* supposition of right.

The Court, however, thought that, notwithstanding this finding, it appeared from the facts stated in the case, which were uncontradicted, that the appellant was justified in doing the act complained of. The appellant being the surveyor of highways, the duty of controlling the drains and removing obstructions was imposed upon him by the Act of Parliament.

INSTITUTION OF CIVIL ENGINEERS.

SIR,—On Tuesday, the 19th inst., occurred the annual election of president, vice-presidents, and council of the Institution of Civil Engineers. Out of this list of twenty persons nominated by the existing council, I find there are no less than seven who are contractors and manufacturers. My impression always was, that the calling of an engineer and that of contractor was as totally distinct as that of architect and builder. Everything ought to be done that can be to make the profession of civil engineers like Cæsar's wife, so that "it must not even be suspected."

24, *Great George-street.* A. LAMB.

MARVELLOUS POWER AND ENDURANCE IN WALKING.

Weston has walked 115 miles in twenty-four hours. If his weight is 150 lb., and he takes 2,000 steps to one mile, he has taken 230,000 steps,—moving 150 lb. at each step over the vertical and horizontal space traversed. In the 500 miles to be walked in six days there will be one million steps, so that his weight of 150 lb. will have to be moved up and forward by one million efforts, and probably some calculating boy will put this into "horse-power." No mechanism, the invention and manufacture of man, burning any sort of fuel, can give such a prodigious performance. To walk 500 miles in six days, about two steps forward must be made each second during the whole time.

Weston having walked 115 miles in twenty-four hours, at 2,000 steps per mile, has taken 230,000 steps in this time, or considerably over two steps and a half each second, during the day of twenty-four hours, as there are 86,400 seconds against 230,000 steps.

HARRIS'S SYSTEM OF VENTILATION.

The object of the system patented by Mr. R. Harris is to provide a simple and inexpensive, as well as a thorough, method of ventilating rooms, without any objectionable draught. The invention consists in providing a narrow supplementary door, or shutter, attached to the door-post in such a manner that when the door is partially open, the supplementary door occupies such a position that it closes the side opening which would otherwise exist, only leaving the *top* open for the admission of air, which opening directs the entering current upwards towards the ceiling in such a manner that it ventilates the whole.

The desirability of ventilating upon this principle will be obvious to all those who have, whilst hanging pictures, approached near the ceiling. By this arrangement a large opening can be given for the admission of fresh air, in comparison with some other modes of ventilation.

ENCAUSTIC PAINTING.

Sir,—Until an opportunity shall occur in this country for thoroughly testing the durability of a *properly*-executed fresco, and by this means removing the prejudice which exists against its adoption for mural painting, it would, perhaps, tend to facilitate the introduction of art into our public buildings if we accepted the encaustic process.

The durability of wax, and its power to resist the action of acids, have long been known. The encaustic process, too, has to English eyes another recommendation in its favour, admitting as it does of the use of pigments which are utterly inadmissible in fresco, and consequently of a richer scale of colour.

My object in writing this letter is to suggest that the experience of English painters in encaustic painting, and the descriptions of the methods which they have used, should be collected and printed for the information of the profession. And as you, Sir, are always ready to aid in any good work, you would, perhaps, allow the columns of the *Builder* to be the means of publishing and communicating such information.

In my paper on "Mural Decoration," read at the meeting of the Social Science Congress at Liverpool, I stated that modern chemistry might probably furnish us with a process of painting which would possess all the valuable qualities of fresco without presenting the same amount of technical difficulty. In making that statement I had such a process in view, but I require time and opportunities to test it.

W. Cave Thomas.

Testimonials. — Mr. George W. Brumell has lately been presented with a gold watch, by the officers and workmen of St. Pancras parish, on his appointment to the surveyorship of Sevenoaks.——The workmen in the employ of Messrs. John Bolding & Sons, brass-founders, of South Molton-street, at their annual supper, presented Mr. Jas. Pentin, a foreman, with a handsome gold chain and medallion, as a token of their respect and esteem, and in appreciation of his services in the firm for forty-eight years. A service of forty-eight years speaks well for both master and man.

VAULTED ROOFS.

Sir,—Mr. Statham, in his admirable paper on "The Architectural Treatment of the Roof," states that,—"Although the dome and the vault have been used to such a great extent in Roman and post-Roman architecture, there are comparatively few instances of any note in which the built dome is used as the real roof, irrespective of any other covering; and, as far as I know, there is not one in which a vaulted roof *is* so used."

An example of a vaulted roof so used will be found at Roslyn Chapel, a building in this and other respects *sui generis*. That this was done of forethought is shown by the circumstance that the gable follows the line of the vault, which is not groined, but is a pointed barrel vault. The remarkable state of preservation in which this building has existed during a long period of utter neglect is attributed to the fact that there is no timber whatever used as a structural material.

The chapel was restored and fitted up for service a few years ago, and in the course of the operations the mosses and lichens which grew on the roof were torn off, and a coating of asphalt substituted. This might have been necessary to check incipient decay, but it certainly does not add to the beauty of the exterior; in fact, it has deprived it of one of its greatest charms.

While I am writing, I take leave to observe that a balustrade or parapet at the foot of a high-pitched roof may be of some value in preventing an avalanche of snow falling upon an unwary passenger, a catastrophe which happened last winter to your humble servant, Signet.

LIERNUR'S SEWERAGE SYSTEM *v.* THE LOCAL GOVERNMENT BOARD.

Sir,—In your issue of the 2nd inst. you mention that the Commissioners say that the Liernur system is one for dealing with the solid of human excrement, that it is complicated, and that it is liable to get out of order. Now, the Liernur system is one that deals with excremental matter; with house, rain, and street water; with factory waste-water, and with subsoil water; and one that prevents pollution of streams. I deny, therefore, that it is a system for dealing with the solid of excrement; I deny that it is complicated; I deny that it is liable to get out of order; and I challenge the Commissioners to establish their statements. I have in my possession official documents from all the three Dutch towns they are supposed to have visited to see the pneumatic system (which is simply one subdivision of the Liernur sewerage system), and these letters completely contradict the Commissioners, who ought not to need me to tell them what the Liernur system really is.

I take this opportunity of protesting against the unfair conduct of the Commission. One of its members has for months past used his official position to disseminate untrue statements as to the Liernur system, through deputations waiting upon him; without by the issue of their report (which is still delayed) giving any public opportunity of refuting such statements. I take, for instance, the remarks he made to the deputation from the Winchester Corporation, as published in the local paper. At my interview with you this day, I showed you letters from the officials of the three Dutch towns testfying to this; and I may add that in two cases they say they are not aware the Commissioners ever visited their towns, or applied for official information; at any rate, they did not make themselves known.

I may add that one of them, on being informed by the secretary of one of our learned societies that he had received under the hand of the Burgomaster of Amsterdam himself a letter which contradicted a most important statement that member had made, remarked,—"I don't care, we shall not alter our report!"

With regard to the Liernur system itself it is, however, more interesting to know that in its session of October last the official Sanitary Board of Holland, sitting at the Department of the Interior, came to the following resolution upon the question on the order of the day, viz., the sewerage of towns:—

"No other system answers so fully and so well all the claims that ought to be put to the collection and removal of excremental matter, of slop and rainwater, and of the soiled water of factories, and to the regulation of the subsoil water, as the Liernur system does, as well from a sanitary as from an æsthetical, technical, and economical (agricultural and financial) point of view."

Is it possible that the thirteen Government medical inspectors of Holland, who sit on the Sanitary Board, do not know the meaning of the word technical? Do they require to be taught by the learned commissioners from England? I think not.

Adam Scott.

HARWICH SEWERAGE COMPETITION.

Sir,—In August last, a premium of 200 guineas was offered by the Harwich Corporation for the best plan or system of sewerage for the borough. The result was that ten schemes were sent in, at great expense to the competitors. These ten schemes were submitted to Mr. Wilson, C.E., 9, Deans-yard, Westminster, who was to report to the Council as to which one was the best.

Mr. Wilson's decision was to the effect that none of the plans were suitable; and he, the paid adviser of the Council, at the same time produced a plan of his own, of which Mr. Councillor Franks remarks that he, Mr. Wilson, "has taken his ideas" "from three of the competition plans" sent in; yet the Council (it appears) decided at its meeting on the 9th inst. to employ Mr. Wilson to make use of the hints conveyed to his mind by the "three schemes" referred to, and to carry the same into effect, so as to produce a "suitable" scheme.

If I were to express my opinion upon the action taken by Mr. Wilson and the members of the Town Council of Harwich, I know you would not insert this letter; therefore, I refrain from doing so.

Accompanying this is a copy of the local newspaper, giving a full account of the meeting referred to.

Thos. W. Grindle, Assoc. Inst. C.E.,
One of the Competitors.

THE LIVERPOOL CATHEDRAL.

Sir,—I have seen in a recent issue of the *Builder* what I take to be an excellent suggestion. A correspondent proposes that Wren's first design for St. Paul's (the Kensington model) should be made of practical use, as the design for the proposed cathedral for Liverpool. I think this suggestion is worthy of some notice, and I am sorry to see it put aside by you. If it is really good architecture we are striving for, then, surely, the interests of "the living present" should not be our first consideration in carrying out a work of this kind; we should aim at having the finest design that can be had, irrespective of any minor consideration. And I am content to leave this masterpiece of church planning to speak for itself; it only requires to be known to be universally appreciated. If it were built with a few modifications on the elevations, it would be undoubtedly the finest church of modern times.

The first great objection to building a cathedral in this style seems to be already overcome, as the design already submitted for the Liverpool Cathedral is in the Classic style; and if it is intended to carry out the building in this style, I am confident that a better design than this one of Wren's could not be obtained.

I think that this suggestion is indeed worthy of some consideration at the present time, when new Sees are about to be formed, and cathedrals built in one or two of our large cities, and there are many reasons that may be urged for the adoption of this design of Wren's. The plan is magnificent, and more suitable to our Protestant service than any Gothic design; its architecture would be more in harmony with the street architecture of our large cities: and, if adopted, it would be paying a well-deserved honour to the greatest English architect who has ever lived.

J. M. R.

ORGANS.

Armagh Cathedral.—The organ in Armagh Cathedral has just received extensive additions and improvements at the hands of Messrs. J. W. Walker & Sons, of London. The instrument has now three complete manuals and pedals, and six stops have been added.

Blandford.—The organ of Blandford Church, Dorset, was "reopened" on the 12th inst., after restoration by Messrs. Hill & Son, of London, in accordance with a plan proposed by the Rev. C. H. Fynes Clinton. All the action throughout the instrument is new, or so thoroughly repaired, re-bushed, or re-leathered as to be equal to new in every respect. The restoration has cost 284*l*. The organ was built nearly a century ago, by England, of London.

Kensington Parish.—The parish surveyor, Mr. Weaver, in a recent report on the slopping, dusting, and watering of Kensington, estimated that an annual saving of at least 3,350*l*. could be effected by the vestry doing their own work, and he pointed out means by which the amount of saving might be greatly increased. At their last meeting the vestry adopted the recommendation.

THE TEMPLE OF ABOO-SIMBEL.

At a meeting of the Society of Biblical Archæology on the 5th inst., Dr. Birch (of the British Museum) in the chair, a paper was read "On some Recent Discoveries at Aboo-Simbel," by Miss Amelia B. Edwards. In this paper the author gave an account in full of some remarkable discoveries made at Aboo-Simbel in the month of February, 1874. These discoveries consist of the foundations of a large pylon, built in crude brick; a vaulted pronaos, likewise in crude brick; and an inner chamber excavated in the rock. The pylon is situated some few hundred yards to the south of the great Temple of Ra, and its walls are 7 ft. thick. The dimensions of the vaulted pronaos and of the excavated chamber are also given. The walls of the latter are covered with coloured bas-relief sculptures of great beauty, interspersed with short hieroglyphic texts. These are all in a state of the highest preservation. The large tableau represents Ramses II. adoring Ra and Ammon-Ra; and Queen Nofre-Ari adoring Hathor. This monument, though under the protection of the tutelary gods of the great temple adjoining, is, however, dedicated apparently to Thoth, and is supposed to have been the library attached to the principal temple. The whole is of the period of the great temple, and strictly corresponds in style. Translations of the inscriptions, as well as a translation of a remarkable graffito in the hieratic character left by a contemporary visitor, are also given. A very perfect arch in crude brickwork was found at a depth of nearly 12 ft. below the surface of the sand. This arch seems to have led from the landing at the bottom of the pylon-stairs to the pronaos of the library. The landing was paved with very curious cones in hand-moulded clay, quite unlike the famous funereal cones found in the Theban necropolis. The author indicates what she believes to be the site of a second pylon, which stood to the north of the great temple, at about the same distance as the site occupied to the south of the pylon already described. Miss Edwards is of opinion that these pylons were approaches to the great temple, and not to the library. Copies of the inscriptions, as well as of some of the decorations of the rock-cut chamber, accompany this paper, having been carefully fac-similed upon the spot by Miss Edwards. The original drawings, with various other sketches of Egyptian temples, were shown by Miss Edwards at a meeting of this society in June, 1875.

CADOGAN PLACE AND SQUARE.

The condition of this important open space, bordered on one side by Sloane-street (the most frequented south-western thoroughfare), and on the other side, as also the northern and southern ends, by ninety-nine first-class houses, has long been a blot on the West End, if not a discredit to the owner of the large estate, as well as the aristocratic occupiers of those fine mansions which bound and adjoin the recognised Belgravian districts.

Large plantations of deciduous trees and shrubs were, many years back, arranged with walks, surrounded with an iron railing, extending in length about 400 yards, and in width 96 yards. Forest-trees of vigorous growth now stand throughout as high as the surrounding houses; but no evergreen shrubs, save ivies only, so that the whole extent is now, and has been for many years, a wilderness, except only that section (about one-fourth part of the whole) lying between the traverse cut of Pont-street and Cadogan-place, north. At this point a road, 70 ft. wide, has been lately opened and enlarged, leading from Belgravia to the new Hans-place Estate, which bids fair to become the great western Belgravian district of fashion.

The condition of this small north portion is not much better than the large south plateau, which latter is really "the abomination of desolation,"—trees, shrubs broken, uprooted, interlaced; shreds of pottery, broken glasshouse frames, and refuse scattered throughout in utter hideousness; discernible from without, but unapproachable by reason of the continuous iron railing. In the centre of this large parallelogram of, say four acres, three low houses or villas, or shanties, stand, luckily half-concealed from view (save one) by the surrounding desert wild,—that one was let out to a nurseryman and florist, who raised cabbages and vegetables there for some years, and who erected a long shop-frontage in the *centre of the square*, facing Sloane-street (nearly opposite Pavilion-road), but he has been lately ejected, and a dancing-school supplements his place! As to the other two villas, the casual occupants, *during summer*, when the foliage is thick, and interlacing thorns and lilacs curtain off the houses, may indulge in fantastic dreams, such as "Far in a wild unknown to public view," for certainly they have all the realities of rude nature,—a "retiro" that is only remarkable for its seclusion in the main centre of fashion, for its perennial increase of smoky deposit, and for undisturbed waste.

Considering the class of houses in the vicinage, and the recent increase of rental, nothing could more effectually improve it than the reclamation and ornamental plantation of at least the borders of this the largest open reserve or square of the south-west district. It would add, at least, 10 per cent. to the value of over 200 surrounding houses. It is true that Sloane-street is, in the main, a business line; but, nevertheless, even on that line the benefit would be no less appreciable.

When we look to the exquisite floral gardening in Hyde Park, the Regent's Park, and, indeed, to the wondrous advance of floriculture in Battersea Park, Victoria Park, and all the open squares and places of resort, and take into account the warmth of popular approval excited by these simply hortulan advances, there can be little doubt of the advantages that must accrue for the benefit of the owners and occupiers of the now desolate Cadogan or Sloane inclosure and estates, by properly laying out the grounds, and simply arranging the shrubs now growing there, with a trifling addition of evergreens to complete the array. One year's *increase* on the rental would defray the outlay, whereas the public approval and benefit acquired would be in perpetuity. This being the proper season to begin rectification and plantation of trees and shrubs, these suggestions are given, by

Quondam.

ARCHITECTS' CLAIMS.

TAYLOR *v.* WILLIAMS.

This action was brought by Mr. John Taylor, of Whitehall and Birchington, architect, against Mr. Walter Williams, of Creswell Hall, Stafford, for designs and obtaining tenders for alterations and additions proposed to be done to Sugnall Hall. The cause came before Lord Coleridge and a special jury, and was by the direction of the judge referred to a barrister in chambers.

Mr. Day, Q.C., Mr. Philbrick, Q.C., and Mr. Jones, were on behalf of the plaintiff; and Mr. Waddy, Q.C., and Mr. Powell, for the defendant.

The defendant brought a counter claim for 900*l.* damages against the plaintiff, for:—

1. Unskilfulness and negligence in preparing such unreasonably extensive alterations to an old house.

2. Employing a quantity surveyor without authority, whereby the defendant had incurred heavy expenses.

3. Obtaining tenders without authority.

Letters from the plaintiff were read, urging the defendant not to make such extensive alterations to an old house, but rather to build a new one. Also a letter from the defendant in reply, that even if it cost him more he preferred to make what he wished out of the old pile. Private family reasons were also given. A letter from the defendant authorising the employment of a quantity surveyor, and requesting to be furnished with a copy of the quantities; also a letter to the plaintiff to obtain tenders, and naming the contractors, were read.

When the contract drawings had been examined, and the evidence of the plaintiff had been given, and before any defence had been heard, an award was agreed to in favour of the plaintiff for 850*l.*, and all the costs of the trial and reference.

CLAIM FOR PREPARING PLANS.

BERRY *v.* ROBSON.

In this case (heard in the Driffield County Court on the 12th inst., before Mr. Bedwell, judge) the plaintiff, Joseph Berry, described as a builder and architect at Driffield, sued John S. Robson, of the same place, retired farmer, for 10*l.* for preparing plans, &c., for a house which defendant contemplated building.

Plaintiff said defendant had had his plans some time, and had built two houses from plans prepared from his. Defendant had offered him 1*l.* for his trouble, which he refused. If the plans had been carried out he would have been entitled to 5 per cent. on the contract, and in the event of the work not being done, to 2½ per cent.

Wm. Mawe, architect, Beverley, said such per-centages were correct.

The defendant contended that plaintiff was not an architect by profession, but simply a builder, who occasionally prepared plans, and therefore was not entitled to charge so much.

His Honour said as plaintiff had been drawing plans for thirty years, he thought he must have some professional knowledge.

Verdict for 7*l.* 7*s.*

GRANITE FOR THE PORTSMOUTH URBAN AUTHORITY.

Sir,—Noticing in your last number a paragraph relating to an offer I recently made to the Urban Sanitary Authority of Portsmouth for the supply to them of broken Guernsey granite, allow me to state that the specification they issue to intending contractors is likely to mislead others as it did me. From it I understood their requirements to be "ordinary"-sized broken granite, such as is used on most of the London roads; and as such I delivered a cargo, which was rejected by the surveyor because the stones were of too large a gauge. I afterwards ascertained that his requirements were for "special"-sized, or 2-in. gauge granite, which is not thus described in the specification and form of tender. For this particular material I asked an additional price of 1*s.* per ton, subsequently amending my offer to 9*d.*

It seems strange to me that, whilst the Board publicly acknowledge my ability to supply the granite they require, they have accepted a tender at 11*s.* 8*d.* per ton for exactly the same material I have offered to supply at 11*s.* 3*d.*!

Joseph S. Gabriel.

SCHOOLS OF ART.

Darlington.—The annual distribution of prizes to the students of the Darlington School of Art took place on the 16th inst., Mr. Henry Pease in the chair. Mr. J. C. Ianson, one of the secretaries, read the report, from which it appears that in the year ending July 31 the total number of students who attended the school was 167, and in addition to these there were sixty-two pupils under instruction by the master, Mr. Elton, in private schools, making a total of 229. The amount of the grant from the Department of Science and Art was 70*l.* 7*s.*, and the amount of the private subscriptions 65*l.* 16*s.* 6*d.* The annual examination in May was attended by forty-eight students from the School of Art, of whom eighteen were successful; and seventy other candidates, of whom thirteen were successful. One hundred and twenty of the students sent up 915 works in all to the annual examination at South Kensington, and there were awarded four third-grade prizes, and also a free studentship to William Mitford. The total income, including fees from private classes, shows an increase of 41*l.* 9*s.* 7*d.* on the sum received in the previous year.

York.—The annual meeting of the subscribers and friends of the York School of Art was held on the 13th inst., the Lord Mayor presiding. The report, read by Mr. William Monkhouse, one of the honorary secretaries, stated that during the past year the students had been diligently at work in the execution of a large number of paintings and drawings. Four hundred and seven of these, by 127 students, were sent up to the Department for examination. The local examination in the "second grade" was attended by sixty-eight students, of whom thirty-eight were successful. Seven third-grade prizes have been awarded, and the same number to those students whose works were marked "excellent" in the second grade. The number of students who have attended the various classes during the year has been 162. The committee state that under the excellent teaching of Mr. Dominy the school is efficiently answering the object of its establishment. Mr. Edward Taylor, the other honorary secretary, read the balance-sheet, from which it appeared that the balance in hand of 88*l.* 6*s.* 0½*d.* with which the year was commenced, had increased to 97*l.* 1*s.* 3½*d.* Mr. Dominy, the master of the school, then delivered a practical address.

St. Martin's.—The annual distribution of prizes awarded to the students in connexion with the St. Martin's School of Art, took place on the 15th inst. at the school in Castle-street, Longacre, under the presidency of Mr. T. Woolner, R.A. In addressing the students the chairman pointed out that drawing was the basis of all excellence in art, and said that great things had been done by artists in England without such advantages as were possessed by those who now desired to learn. One hundred and thirty years ago there was painted a series of pictures which might be seen in the National Gallery, viz., "Le Mariage à la Mode," by Hogarth. The wider the student's means of knowledge, and the more deeply he studied art, the more profound

would be his admiration for the knowledge displayed in those works, and for the inimitable manner in which they were rendered. Hogarth lived at a time when there were no such facilities for the promotion of art as those who now studied it were permitted to enjoy, but, notwithstanding the disadvantages under which he laboured, an assiduous application to his task enabled him to become one of the greatest stars of his nation's glory. The chairman did not know that he could offer a more striking instance of difficulties overcome, and of showing them how with determination they might excel in their studies by the greater ease with which they could at present be pursued. Mr. W. F. Yeames, A.R.A., next delivered an address. The school is attended by about 120 students.

CHURCH-BUILDING NEWS.

Gumley.—The parish church of St. Helen, Gumley, was reopened on the 1st inst., after restoration. The church was until lately in a most dilapidated condition. It consisted of a nave, small south aisle, and the chancel. Some two years ago Mr. Bodley, of the firm of Bodley & Garner, architects, was called in, and the restoration has been most successfully carried out under the direction of that firm. The church is one of the early fourteenth century. The nave has been thoroughly restored, the gallery removed from the tower arch, the arch re-opened, and the walls of the nave raised, and clearstory window inserted. The flat plaster ceiling is removed, and there is now an open timber roof. The south aisle has been similarly restored. A new carved oak screen has been erected between the chancel (which has been rebuilt upon the original lines) and nave. The new east window in the chancel has three lights, representing the passion of our Lord. The window was made under the superintendence of the architect. The whole cost is about 2,000*l.*

Humber.—The chancel of Humber Church, near Leominster, after having been closed for a few months during the progress of restoration, has been completely renovated, and was re-opened on the 30th ult. The church is a small stone edifice, consisting of nave and chancel, with porch and tower. In restoring the chancel the south wall has been rebuilt. The open-timber roof which covered the chancel before the restoration commenced has been re-placed and varnished, and the chancel has been re-seated with open benches of pitch pine, and new encaustic tiles have been laid. Some of the old encaustic tiles which were taken up by the contractor have been re-laid within the altar-rails, and the new tiles were supplied by Mr. Godwin, Lugwardine. Mr. Thomas Wyatt, of London, was the architect whose designs have been followed in the work, and Mr. J. Davies, of Leominster, was the contractor.

Llandegley.—The parish church of Llandegley, Radnorshire, was re-opened on the 7th inst., after a restoration which has comprised the entire reconstruction of the chancel; the taking down and rebuilding the walls where they were defective; and the covering of the whole of the church with a new roof. The architect has sought to reduce the great apparent length of the interior of the church by the insertion of buttresses. The whole of the work of restoration was designed by, and carried out under the superintendence of, Mr. Stephen W. Williams, Radnor, county surveyor. Mr. Berry, of Kington, was the builder. The entire cost is computed at 1,200*l.*

Wrotham.—For some time past the buttresses of the tower of Wrotham Church have been thought unsafe, but lately they have been put under the builder's hands, and more recently the work of restoration has been completed. They had been repaired from time to time with lead, bricks, and sandstone, all of which were out of keeping with the church. These materials have been taken away, and their places supplied with Kentish rag and Bath stone weatherings. The tower has also been made perfectly stable. Mr. R. Wheeler, of Tunbridge Wells, was the architect, and the builder was Mr. Bishop, of Birling.

Barnsley.—The new chancel at St. George's parish church, Barnsley, was consecrated on the 23rd ult. The new chancel, which has been built by Messrs. Robinson & Sons, contractors, of Barnsley, exactly corresponds in style with the main building, which is Decorated Gothic in style. These with other recent improvements in the church will cost about 2,000*l.*

Perlethorpe.—Earl Manvers having, a few years ago, erected a mansion in Thoresby Park, has recently, at his sole cost, erected a church at Perlethorpe, which was consecrated on the 21st ult. The church is Early English in its prevailing style, and it consists of nave, north and south aisles, chancel, vestry, west tower, and spire, north and south porches, and west door. The east window is of painted glass from Paris, illustrative of the life of Christ. The reredos is of Caen stone; the centre figure under a niche is Christ as the Good Shepherd, the other four under canopies being the four Evangelists. The greatest length of the sacred edifice is 103 ft. clear. The height of the tower and spire is 130 ft. The roof is of stained pitch pine. The stalls in the chancel are carved with grotesque figures. Chairs are used in the body of the church at present. The stone used is the Ancaster for the interior, piers and capitals in Steetly stone for strength. The church is dedicated to St. John.

Little Hulton.—On the 14th inst. the Bishop of Manchester consecrated the new church of St. Paul's Peel, Little Hulton. The church has been built to take the place of the old brick chapel, which dates from 1759, and which has little attraction outside or in to boast of. It was at first only proposed to build the nave and its aisles, and the chancel and its aisles; but, as the work proceeded, it was resolved to undertake also the lower story of a western tower, and a northern porch. The church is built of stone inside and out. It will accommodate 850 worshippers,—upwards of 700 of these on fixed benches, and the remainder on chairs in the open space at the west end. The contracts, which include everything required to complete the church—excepting the upper part of the tower—amount to about 6,300*l.* The tower (which has not yet been completed) will be surmounted by an octagonal broach spire, which will rise to a height of 140 ft. to the top of the metal vane. The general outline of the plan of the church is that of a parallelogram, the nave and chancel and the aisles being respectively the same widths. The sanctuary projects to the east, the vestry to the south, the porch to the north, and the tower to the west.

Porton.—The dilapidated old church at Porton, near Salisbury, has been taken down, and with the materials a new church of a more commodious character is in course of erection on a piece of land leading from the village to the railway station, given by Mr. J. A. Ingram, of Wylye. The new church is estimated to cost 1,467*l.*, and will contain 153 sittings.

Boxley.—Boxley Church, Kent, has just been re-opened, after being closed for six or seven months for internal reparation. The roof of the chancel and nave is one of the most marked of the improvements. The roof had got into a dilapidated state, and this led to the Ecclesiastical Commissioners being petitioned to repair the building. They agreed to repair the chancel on condition that the parishioners evinced their interest in the work by re-roofing the nave; and this the parishioners accepted, and have carried out the work in the most complete manner. Over the nave and chancel a new roof of stained pine has been placed, and the age-stained timbers have been used for the roofs of the side aisles, which have also been cleared of the disfiguring white plaster, and panelled. The chancel is fitted with choir stalls of carved oak. A new stained-glass window has also been added, to the memory of the Rev. Tatton Brockman. The subject is "The Ascension." The south entrance to the church has been entirely rebuilt, of ragstone flints with Bath stone facings; and the exterior of the east end of the building has been faced and pointed in keeping with the new work. The exterior of the north and west fronts have been left untouched. Altogether, the work has cost about 2,500*l.* The renovation has been carried out under the direction of Mr. W. Vaughan, of Maidstone, builder.

Codsall.—The interior of the parish church has been painted and decorated from designs by Mr. J. R. Veall, architect. The expense of the chancel has been borne by Lord Wrottesley, the patron of the living, and the remainder has been paid by voluntary subscriptions of the parishioners. The works have been carried out by Mr. Geo. Lewis, of Wolverhampton.

Sanitary Institute of Great Britain.—A general meeting of the members of the society so called was held at their rooms in Spring-gardens on Tuesday, the 12th instant, when the committee presented a report.

SCHOOL BOARD SCHOOLS.

Normanton.—On the 18th ult. the memorial-stone of a new school for the Normanton School Board was laid at Normanton Common. The buildings, when complete, will accommodate 300 children. The building contains a mixed school 55 ft. by 20 ft., with a class-room 10 ft. by 20 ft.; also an infants' room, 40 ft. by 20 ft., with class-room 20 ft. by 20 ft. The height to the wall-plates will be 12 ft. 6 in., and to the collar 22 ft. The style is Gothic, and the materials used are red bricks with Huddersfield stone dressings. The rooms will be plastered, and boarded round to the height of 4 ft., the wood-work being stained and varnished. Lavatories, out-offices, play-ground, and every other convenience are provided, and also a bell for calling the children together. There will also be erected a six-roomed house for the master. The architect is Mr. William Watson, of Wakefield, and the buildings are being erected by Mr. Robert Young, of Lincoln, for 3,000*l.*

Stanhope.—Five Board schools in the parish of Stanhope, Weardale, have recently been opened. The architect of all the buildings was Mr. John Smith, of Shotley Bridge. The tenders for the buildings were let as follow:—Rookhope school was let April 21, 1875; the total cost, including site and furniture, is 1,753*l.* This school will accommodate 200 children. Wearhead was let Jan. 10, 1875; total cost 1,324*l.*, and will accommodate 200 children. Lanehead, let Jan. 18, 1875; total cost 1,150*l.*; accommodate 140 scholars. Westgate, let Jan. 18, 1875; total cost 2,100*l.*; accommodate 250 children. St. John's Chapel, let Sept. 22, 1875; total cost 1,646*l.*; accommodate 160 children.

Lambeth.—The School Board for London has recently opened new schools at the corner of Wheatsheaf-lane, South Lambeth-road. The new building is partially encircled by a spacious play-ground. Following the usual style of the London Board schools, Mr. E. R. Robson, the architect, has provided accommodation for 849 children, inclusive of 266 boys, as many girls, and 317 infants. The area of the site and premises is 25,795 superficial feet. The cost of the site was 4,670*l.*, which, with 7,921*l.* for the building, gives a total of 12,591*l.*, or a total cost per head of 14*l.* 16*s.* 7*d.* The work was carried out by Messrs. Higgs & Hill, contractors.

Eastmoor.—At a special meeting of the Wakefield School Board, on the 21st ult., the plans of Mr. W. Watson were accepted for the proposed new Board Schools for the Eastmoor district. The following are details with regard to the proposed new schools, which are to be proceeded with as speedily as possible. Mr. Watson's design is Gothic in style, intended to be red brick, with stone dressings. The buildings stand back from the Eastmoor-road, and will be enclosed with a dwarf wall and iron railings. The site proposed for school purposes is 3,000 yards in extent, the remainder being left for future extension, teacher's house, or for disposal as building land. The buildings are planned to accommodate 600 children, viz., 200 boys, 200 girls, and 200 infants. The rooms for the boys and girls are 55 ft. by 25 ft. each, with four class-rooms, 25 ft. by 15 ft. The infants' room will be 43 ft. by 26 ft., and class-room, 26 ft. by 20 ft.

Books Received.

ALMANACS AND DIARIES.

The British Almanac and Companion, 1877, still stands by right at the head of any list of such productions. The "Companion" comprises the usual number of useful essays, amongst which the chapters on "Architecture and Public Improvements" are eminent.——Messrs. Letts, Son, & Co. issue as usual their *Diaries, Pocket-Books, and Almanacs*, of all sizes and shapes: some for the library table, some for the office desk, and others for the waistcoat pocket. Letts's No. 39 Rough Diary and Scribbling Journal gives a foolscap page to three days, interleaved with blotting-paper, and all for 18*d.*——*Blackwood's Scribbling Diary for* 1877 goes for a shilling, but it does not give so much space for each day.——*Pettitt's Oblong Diary and Dimension Book*, 1877 (Frith-street), has the peculiarity of being ruled for dimensions and squaring, under each day's date, so as to be handy for surveyors and builders.——*Calvert's Mechanic's Almanack* is intended for the workshop, and contains a good deal of cognate and useful information.

VARIORUM.

The series of little sixpenny books in course of publication by Macmillan & Co., entitled *Science Lectures at South Kensington*, is valuable and well timed. We have before us "Photography," by Captain Abney, R.E.; "Kinematic Models," by Professor Kennedy, C.E.; "What the Earth is Composed of," by Professor Roscoe; and "Sound and Music," by Dr. W. H. Stone. Others have been published, and more will be.——*The Iron and Metal Trades' Companion*, by Thos. Downie (Lockwood & Co.) is a calculator or ready reckoner for ascertaining the value of goods from 1s. per cwt. to 112s. per cwt., and from ¼d. per lb. to 1s. per lb. It will be found useful in many shops and offices.——From Messrs. Partridge & Co. we have received a bundle of the books which form their speciality,—*The Children's Friend*; *The Friendly Visitor*; *The Infants' Magazine*; and *The Family Friend*. Bound in thick, showy covers, they have a handsome appearance, at small cost. Like the *Band of Hope Review*, and *The British Workman*, which come from the same publishers, and go all over the world, they are noticeable for the excellence of the wood-cuts with which they are profusely illustrated.

Miscellanea.

Discoveries at the Tower of London.—Some very interesting historical discoveries have been made during the past few days by the Office of Works in their restoration of certain parts of the Tower of London. The special scene of their labours has been the Church of St. Peter-ad-Vincula. The Commission of Superintendence, under whose orders the work of removing the flooring and examining the various vaults took place, consisted of the secretary of the Board of Works, a well-known London surgeon, and a representative of the Constable of the Tower. Across the floor in the centre of the chapel was found the body, which was pronounced to be that of a woman of at least seventy years of age, and which, according to all probability, was that of the Countess of Salisbury, the last of the Plantagenets, whose execution by Henry VII. was considered by most contemporary and subsequent statesmen as an inevitable necessity. Not far from this spot was discovered the body of a man of great stature and bulk, which would answer to the description given of Robert Dudley, Duke of Northumberland, the father of Lady Jane Grey. For some time it was doubted whether the fact of the head being found with the body did not upset this theory, but further search among the Tower records showed that in his case the usual formality of placing the head on London Bridge had been dispensed with.

Scarcity of Cottages in Ipswich.—In a letter to the *Suffolk Chronicle*, Mr. Alfred Piper remarks upon the serious difficulty which the poorer classes of the town's population have in finding house-room, owing to the pulling down of cottage property and the increase of population. Complaints are being made of the illegal and dangerous amount of overcrowding which this state of things is necessitating. "In the interests of an increasing number of houseless persons," says Mr. Piper, "it is important to know whether cottages, which would comply with legal regulations, and which would let at from, say, 2s. 9d. to 3s. 6d. per week, could be so constructed as to realise five per cent. on the outlay, with a fair margin for depreciation. Many will contend that the use of bricks at their present cost would be out of the question, and probably weather-boarding for exteriors would be objectionable on account of its perishable character and the cost of frequent painting; it is, however, a question whether the carcasses and dividing walls could not profitably be made of concrete."

Bede's Mission Room, Gateshead.—This new mission-room, situate in the Sunderland-road, Gateshead, has been opened by Archdeacon Prest. It will accommodate 400 worshippers, and is provided with desk seats, so that classes may be held in it, as well as parochial meetings. It has a lofty open-timbered roof, and is warmed by six open fireplaces. The whole of the work has been executed from the plans of Mr. Gibson Kyle, architect, Newcastle, by the Brick and Stone Company, Gateshead.

Remains of Carthage.—A correspondent of the *Times*, who has recently visited the site of ancient Carthage, about ten or twelve miles from Tunis, writes:—"The only remains in any way complete are the reservoirs and the aqueduct. The former are in a good state of preservation and are constructed on a scale of great magnificence. They are calculated to hold a large supply of water. These have all been arched over, but some of the arches are beginning to give way, and have tumbled into the tanks. . . . The aqueduct, constructed of enormous blocks of stone, and extending away towards the direction of Tunis, has in many places given way; but enough remains above ground to enable us to trace it through many miles. . . . It was with regret I found among the material collected for building purposes at the town of Goletta parts of marble columns with carved work of the most magnificent description, all of which are being broken up to erect some humble steadings. The Italians and Spaniards of the Middle Ages have adorned their palaces with marbles from Carthage, and the Venetians have their friezes and columns, which were once the admiration of Dido and of Hannibal. Is it too much to hope that an effort might yet secure for us some relic of a city the very foundations of which may before long before long become lost to our sight?"

Model Lodging House for Single Men, Derby.—A new lodging-house for single men has just been opened in Nun-street, Derby, by the Midland Improved Industrial Dwellings Association (Limited), for the accommodation of sixty weekly and nightly lodgers. The house has been fitted up with special reference to the comfort and convenience of regular weekly lodgers; each bed is enclosed by partitions 7 ft. high, so as to give the privacy of a separate room; and a lavatory is attached to each set of bedrooms. In addition to the kitchen, the weekly lodgers have the use of a large and well-lighted dining-room with two fireplaces, a lock-up box and cupboard for the security of their property; the use of a library, and other advantages. The nightly lodgers have a separate bed, but not partitioned off, the use of a large kitchen with cooking stoves, and suitable cooking utensils. The ventilation and sanitary arrangements have received special attention.

St. George's Hall, Hereford.—A new hall, to bear the above title, is nearly completed at Hereford, in connexion with Mr. Watkins's skating-rink. The foundations of the new hall were commenced during the first week in October last, and building operations have advanced so as to enable the contractor to commence the erection of the roof. The walls are of red brick. The main ribs of the roof have a span of 64 ft., and are of pitch pine, bolted together with iron. The length of the hall is 84 ft. The floor will be laid as an in-door skating-rink, and there will be around the entire space a promenade for visitors. Above this promenade, on either side, will be a gallery. The interior arrangements, when finished, will provide for the accommodation of about 2,000 persons.

Tipton New Public Offices.—The memorial stone of the new public offices at Tipton was laid on the 13th inst. The offices will afford accommodation, on the ground-floor, for clerks', surveyors', collectors', and inspectors' offices, waiting-room, with entrance-hall and vestibule 9 ft. wide, which will be laid with Maw's encaustic tiles; these rooms will be 12 ft. high. The Board-room will be on the upper floor, size 40 ft. by 24 ft. 9 in., and 15 ft. high, with deep-coved enriched cornice and centres; this room will be lighted by twelve windows. Adjoining is an office for the use of the clerk to the School Board. In the basement are cellars for fuel, gas-meter, and stores. The general design of the building is plain Italian, with a Mansard roof and ornamental iron cresting.

The Affairs of Messrs. Peto, Betts, & Crampton.—The case of Peto, Betts, & Crampton was before the London Bankruptcy Court on the 11th inst. The bankruptcy occurred in July, 1867. A dividend meeting was held under the separate estate of Sir Samuel Morton Peto and Mr. E. L. Betts, and it appeared by the account of Mr. Paget, the official assignee of the court, that a sum of 60,081*l.* stood to the credit of the estate. A resolution was passed by the creditors present to pay a further dividend of 1s. in the pound, making, with previous dividends, a total of 4s. 9d. in the pound. The debts proved amount to no less than 1,184,000*l.*, and the present dividend will absorb 59,000*l.* and upwards.

Houses Blown Down.—Loss of Life.—During a gale of wind and rain on Wednesday, a chimney and part of a bank against which a house was built in Pandon, Newcastle-on-Tyne, fell, and broke in the roof, ceiling, and floor of the house, burying in the ruins four persons. Two women were got out alive, but with broken legs; but a man, George Jobling, and a woman named Bridget Parish, were dead when extricated. The property was very dilapidated, and forms portion of some that the Corporation intend clearing away. At Sunderland the roof and upper portion of a rickety house was blown in by a strong gust of wind. The upper story was known to be occupied by a widow named Mary Lee, with her children. On the neighbours running to their rescue they removed a quantity of rubbish and found the children in bed comparatively unhurt, though unconscious, but the mother was dead, her neck having been broken.

Proposed New Street in Bristol.—The project of a proposed new street to run from near Bristol Bridge through Baldwin-street, coming out near the Drawbridge, may (according to a Bristol paper) be said to be practically deferred for the present; for, while nearly 200,000*l.* would be required to proceed with it, the Local Government Authority in London will not allow the Town Council to borrow more than 50,000*l.* This looks like a stopper, as there are only three years in which to do the work. And perhaps it is just as well that works which will wait should wait; while the works that will not wait—like those for drainage—will require an outlay of from 100,000*l.* to 200,000*l.* The sewage necessity is certainly a much more pressing one than a new street.

Death of a Cornish Antiquary.—The Rev. J. J. Wilkinson (late rector of Lanteglos-by-Camelford-cum-Advent), who has just died after a very brief illness, was a man of mark in Cornwall, particularly as to antiquarian matters. He saved from destruction many objects of interest, such as crosses, an old font, and a very curious inscribed stone, and had them placed in the rectory grounds. He had held the living of Lanteglos for some twenty-five years, and was the first to call attention to the bee-hive hut, and the Celtic remains at Rough Tor and Brown Willy. Mr. Wilkinson was a man of most genial manners, and will be remembered by many who visited Cornwall a few months ago under the auspices of the British Archæological Association. On that occasion we mentioned some of Mr. Wilkinson's good doings.

Alleged Important Discovery for Preserving Ironwork.—According to the London correspondent of a provincial paper, a discovery of great importance to the iron industries in this country has been made by Professor Barff, of the London University. The use of iron as a building material and for shipping purposes is greatly checked by its tendency to corrosion and rapid decay; and all experiments for coating it with protective washes have hitherto proved useless. Professor Barff is said to have discovered a process of oxidising iron so as to prevent corrosion under any circumstances.

The Durham Joiners.—Last week a meeting of master joiners, presided over by Mr. G. Gradon, was held in the Mayor's Chamber, Durham, to take into consideration the condition of the trade in that city. It was alleged that great slackness prevailed, and a resolution to reduce the wages of the *employés* by 1d. an hour was come to. As the men work fifty-three hours per week, the reduction will amount to 4s. 5d. weekly. Notices to this effect were posted up in the various workshops, and a few days later a large meeting of the men was held in the Griffin Inn to consider the proposed reduction, which will come into operation on the 1st of January. After some discussion it was resolved to accept no reduction.

The Glasgow Joiners.—A meeting of the Glasgow joiners was held in the Albion Hall on the 13th inst. to consider the new code of by-laws which has been drawn up. The rules were gone over *seriatim*, but no material alterations were made.

The Brussels Exhibition.—Eighty per cent. of the guaranteed fund subscribed in Belgium for the Brussels Hygienic and Life-saving Exhibition is about to be returned to the guarantors pending the final settlement of the accounts.

Builders' Hardware.—It is stated that at Birmingham considerable orders for builders' brass and iron work, door and window fastenings, columns, girders, &c., are under execution for some of the larger manufacturing towns.

TENDERS

For the erection of schools to accommodate 754 children, with covered playgrounds and caretaker's house, at High Felling Durham, for the Heworth School Board. Mr. Thomas Oliver, architect:—

Foster	£7,122 0 0
Greason & Stockdale	7,103 0 0
Lee	7,100 0 0
Southron	6,462 0 0
Hutchinson	6,372 0 0
Handcock	6,190 0 0
Oake	6,150 0 0
R. & J. Harrison (accepted)	5,739 0 0

For rebuilding premises, Mason's Avenue, City. Mr. E. Woodthorpe, architect:—

Heeps	£1,149 0 0
Pritchard	1,093 0 0
Therry	1,086 0 0
Boyce	1,060 0 0
Johnson	1,037 0 0
Outhwaite	939 0 0
Larke (accepted)	890 0 0

For repairs to four houses, Heneage-lane, City. Mr. John Young, architect:—

Heeps	£573 0 0
Read & Son	549 0 0
Oram	490 0 0
Roper (accepted)	450 0 0

For the erection of seven 6-roomed houses, Plumstead Park estate. Mr. W. S. Witherington, architect:—

Coombs (accepted)	£1,600 0 0

For house, Third Avenue, West Brighton estate, Brighton. Mr. W. G. Davie, architect. Quantities supplied:—

Temple & Foster	£5,682 0 0
Lockyer	5,200 0 0
Sheldon	5,120 0 0
Oxley	5,000 0 0
Hall	4,879 0 0
Bruton	4,650 0 0
The National Co-operative Builders and Contractors' Society	4,572 0 0
Howard	4,440 0 0
Battley	4,400 0 0
Vincent	4,042 0 0
Hide & Co.	3,994 0 0

For the erection of a warehouse, 13, Thomas-street, Stamford-street, for Mr. Mark Mills. Mr. G. Legg, architect:—

Shurmur (accepted)	£1,043 0 0

For alterations and repairs to the Monster Public House, Pimlico. Mr. Thos. E. Parker, architect:—

Shurmur (accepted)	£369 0 0

For works in the erection and completion of a Congregational church, schoolroom, and appurtenances at Croydon, Surrey. Mr. John Sulman, architect:—

Colls & Sons	£9,300 0 0
Downs	9,137 0 0
Newman & Mann	9,100 0 0
Dove Brothers	8,915 0 0
Tarrant & Sons	8,367 0 0
L. H. & P. Roberts	8,079 0 0
Perry & Co.	7,895 0 0

For proposed works at East Greenwich, for the Directors of the London Seed-crushing Company (Limited). Mr. E. A. Gruning, architect. Quantities supplied by Mr. E. Andrews:—

		Credits.
Croaker	£5,415 0 0	£80 0 0
Lawrence	5,359 0 0	75 0 0
Merritt & Ashby	5,218 0 0	60 0 0
Newman & Mann	5,125 0 0	40 0 0
Lander	4,555 0 0	120 0 0
Conder	4,438 0 0	40 0 0
Brass	4,384 0 0	130 0 0

For alterations to No. 9, The Grove, Clapham-road, for Mr. R. E. Larke. Mr. Legg, architect:—

Kent	£1,415 0 0
Chessum	1,376 0 0
Sweeting	1,245 0 0
Rider	1,204 0 0
Shurmur (accepted)	1,152 0 0

For a steam-boiler at the St. Olave's Union Infirmary laundry, Deptford Lower-road, Rotherhithe. Mr. H. Saxon Snell, architect:—

Benham & Sons	£260 0 0
May Brothers	186 0 0
Fraser Brothers	185 0 0
Potter & Sons (accepted)	173 17 0

For new water-tower, Lambeth Workhouse. Messrs. Fowler & Hill, architects. Quantities by Messrs. Lamb & Church:—

Taylor	£2,810 0 0
Battley	2,740 0 0
Prebble & Co.	2,540 0 0
Le Fevre & Co.	2,435 0 0
Hutchinson & Co.	1,950 0 0

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